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Ser J52/1108

From: Commander, Dahlgren Division, Naval Surface Warfare Center
To: Commanding Officer, Naval Ordnance Safety and Security Activity
(N716/C. Wakefield)
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Indian Head, MD 20640-5555

Subj: HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE (HERO) SURVEY OF MARINE CORPS AIR STATION (MCAS)/MARINE CORPS BASE (MCB) CAMP PENDLETON, CALIFORNIA

Encl: (1) Hazards of Electromagnetic Radiation to Ordnance Assessment of Marine Corps Air Station and Marine Corps Base, Camp Pendleton, California (16 copies)
(2) Recommended Distribution List

1. A HERO survey of MCAS/MCB Camp Pendleton, California was conducted during the period of 11 through 14 February 2002. Enclosure (1) provides guidance for minimizing operational restrictions due to HERO at MCAS/MCB Camp Pendleton and is submitted for your approval. An advance copy of this guidance was provided to MCAS/MCB Camp Pendleton to support the station's ongoing ordnance evolutions. Enclosure (2) contains a recommended distribution list.

2. If there are any questions or comments, please contact Charles Denham, J52, at commercial (540) 653-3444 or DSN 249-3444.

Blind copy to: J50 (w/o encl), J50/E^3 Tech. Lib., J52/Files (w/o encl), J52/Denham, XDC95 (2 cy, w/o encl)

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RECOMMENDED DISTRIBUTION LIST

Enclosure (2)

RECOMMENDED DISTRIBUTION LIST FOR HERO ASSESSMENT
OF MCAS/MCB CAMP PENDLETON, CA

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HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE ASSESSMENT OF MARINE CORPS AIR STATION/ MARINE CORPS BASE CAMP PENDLETON, CALIFORNIA

APRIL 2002

NAVSEA
DAHLGREN
Surface Warfare Center Division

NAVAL SURFACE WARFARE CENTER, DAHLGREN DIVISION
DAHLGREN, VA 22448-5100

Enclosure (1)

HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE ASSESSMENT OF MARINE CORPS AIR STATION/MARINE CORPS BASE CAMP PENDLETON, CALIFORNIA

April 2002

Prepared by:

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Under Contract N00178-98-C-3007

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EXECUTIVE SUMMARY

This report covers the Hazards of Electromagnetic Radiation to Ordnance (HERO) concerns at Marine Corps Air Station (MCAS)/Marine Corps Base (MCB) Camp Pendleton, California. The HERO survey focuses on the effects of electromagnetic environment (EME) created by stationary and mobile/portable antenna/transmitter systems located in the vicinity of ordnance operations such as transportation, assembly, and loading operation areas. In general, aircraft, mobile, and portable (tactical and commercial) transmitter systems present a particular HERO concern to ordnance operations. The unlikely event that an ordnance accident occurs on the transportation route or at other ordnance operation areas also creates HERO concerns.

HERO emission control (EMCON) guidance for operations involving HERO UNSAFE ORDNANCE and HERO SUSCEPTIBLE ORDNANCE is provided in this report and should be incorporated into the station's HERO instruction.

In the unlikely event of an ordnance accident, all ordnance containing electrically initiated devices (EIDs), even those normally classified HERO SAFE ORDNANCE, must be considered HERO UNSAFE ORDNANCE. This is because possible changes in the ordnance configuration may result in loss or reduction of radio frequency-protective features. Should an accident occur while transporting ordnance to or from the maintenance depot, storage/assembly areas, or along transportation routes, HERO EMCON will be necessary. Units responding to such an incident (security, fire, medical, and explosive ordnance disposal personnel) may arrive at the scene with multiple radio equipment. Multiple very high frequency radio transmitters could pose an additional threat to this HERO UNSAFE situation unless properly managed. Detailed procedures are furnished in this report.

Currently, geophysical surveys for unexploded ordnance (UXO) are being conducted at various Department of the Navy shore facilities using equipment with electromagnetic transmitting detection/location (ground-penetrating radar, ground conductivity meters, etc.) systems. At the present time, there is no safety criterion governing the use of such equipment near UXO that may contain EIDs. The indiscriminate use of these systems in proximity to UXO may inadvertently initiate the EIDs and detonate the ordnance, causing the loss of life or equipment. Before this equipment is used, it should be evaluated by the Naval Ordnance Safety and Security Activity (N716) for its HERO impact on UXOs.

A detailed discussion of the HERO findings is presented in the assessment report.

Please address questions or comments concerning this report to:

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NOMENCLATURE

AIMD	Aircraft Intermediate Maintenance Depot
ASW	Anti-Submarine Warfare
ASP	Ammunition Supply Point
AUR	All-Up Round
AZ	Azimuth
BLDG	Building
CALA	Combat Aircraft Loading Area
dB(i)	Decibel (isotropic)
DoD	Department of Defense
DSN	Defense Switch Network
EID	Electrically Initiated Device
EL	Elevation
EMCON	Emission Control
EME	Electromagnetic Environment
EOD	Explosive Ordnance Disposal
FUR	Furuno Electric Co., Ltd.
GCU	Guidance and Control Unit
HERO	Hazards of Electromagnetic Radiation to Ordnance
HF	High Frequency
IFF	Identification; Friend or Foe
INMARSAT	International Maritime Satellite
JDAM	Joint Direct Attack Munition
LOS	Line-of-Sight
L-FORM	Landing-Force Munitions
LHA	Amphibious Assault Ship (general purpose)
LRM	Long-Range Mode
MAE	Maximum Allowable Environment
MAG	Marine Aircraft Group
MARS	Military Affiliate Radio System
MASS	Marine Air Support Squadron
MCTSSA	Marine Core Tactical System Support Activity
MHz	Megahertz
MK	Mark (weapons)
mm	Millimeter
MOD	Modification/Model (weapons)
MOT	Motorola, Inc.
mW/cm^2	Milliwatts per centimeter squared
N/A	Not Available/Applicable/Assigned
NALC	Navy Ammunition Logistic Code
NATO	North Atlantic Treaty Organization
NAVAIR	Naval Air Systems Command
NAVELEX	Naval Electronic Systems Command (SPAWAR)
NAVSEA	Naval Sea Systems Command

NOMENCLATURE (CONT.)

NAVSEAINST	Naval Sea Systems Command Instruction
NOSSA	Naval Ordnance Safety and Security Activity
NSN	National Stock Number
NSSMS	NATO SEASPARROW Missile System
OP	Ordnance Publication
PEL	Permissible Exposure Limit
P/N	Part Number
POC	Point of Contact
RADHAZ	Radiation Hazard
RF	Radio Frequency
SATCOM	Satellite Communications
SEAL	Sea, Air, and Land (team)
SHF	Super High Frequency
SPAWAR	Space and Naval Warfare Systems Command
TACAN	Tactical Air Navigation
TALD	Tactical Air-Launched Decoy
TAS	Target Acquisition System
TP	Data collection location (test point)
UDT	Underwater Demolition Team
UHF	Ultra High Frequency
UXO	Unexploded Ordnance
VHF	Very High Frequency
USMC	U.S. Marine Corps
V/m	Volts per meter
W	Watt

CONTENTS

TABLES

APPENDIXES

HERO ASSESSMENT OF MCAS/MCB CAMP PENDLETON

INTRODUCTION

In accordance with reference (a), a Hazards of Electromagnetic Radiation to Ordnance (HERO) survey of Marine Corps Air Station /Marine Corps Base (MCAS/MCB) Camp Pendleton, California was conducted during the period of 11 through 14 February 2002. This HERO survey updates the station's previous HERO assessment report and meets the survey periodicity requirement.

Instrumented tests were employed, as a mathematical analysis alone would have resulted in more operationally restrictive conditions. The recorded data are the basis for determining the least operationally restrictive conditions for conducting ordnance operations safely within the station's electromagnetic environments (EMEs), and are the foundation for the recommendations provided in this report.

The technical information contained in this report is the latest available and supersedes that found in NAVSEA OP 3565, Volume 2, Tenth Revision of 15 January 2001. However, as the HERO testing program continues, subsequent changes to OP 3565 should be reviewed for maximum allowable environments (MAEs) that may modify the emission control (EMCON) guidance provided herein.

In accordance with reference (a), a number of factors were considered to determine the HERO survey periodicity for this facility. Reference (b) was reviewed in order to define the level of ordnance activity present (Category I being the most active and Category IV being the least active). Reference (b) lists this facility's ordnance handling frequency level as Category III, containing elements of stowage; assembly/disassembly; rail/truck holding, and small-arms range usage. In addition to reviewing the current level of ordnance activity, base realignment and closure and Naval Facilities Engineering Command site approval requests (level of activity) and the present level of emitter activity at this facility were reviewed. As a result, the current HERO survey periodicity for this facility is 5 years; the next HERO survey should be completed in 2007.

REFERENCES

(a) Hazards of Electromagnetic Radiation to Ordnance Safety Program, NAVSEAINST 8020.7C, 1 Jul 1999.

(b) Shore Station Explosive Safety Inspection, NAVSEAINST 8020.14A, Change 2, 20 Dec 1999.

(c) Electromagnetic Radiation Hazards (Hazards to Ordnance), NAVSEA OP 3565/ NAVAIR 16-1-529/NAVELEX 0967-LP-624-6010, Volume 2, Tenth Revision, 15 Jan 2001.

(d) NAVFAC 11010/31 Parts I and II, Subj: Request for Project Site Approval/Explosive Safety Certification.

BACKGROUND

U.S. Marine Corps Facilities at MCAS/MCB Camp Pendleton provide support to aviation and ground personnel training programs. MCAS Camp Pendleton maintains and operates facilities to support flight operations of tenant units, such as Marine Aircraft Group 39 (MAG 39); Marine Air Support Squadron (MASS) 3; and units of the Marine Aircraft Wing, Marine Reserve Aircraft Wing, and the 1st Expeditionary Force that conduct training in the air-to-ground operating areas. Support is also provided to visiting aircraft.

MCB Camp Pendleton serves as a training ground for active and reserve Marine forces and has the overall responsibility of providing training facilities and logistic support for fleet Marine force units. The base is home of the 1st Expeditionary Force, 1st Marine Division, 1st Force Service Support Group, and Marine Corps Tactical System Support Activity (MCTSSA) and Assault Craft Unit 5. The base also provides training facilities for national, state, and local agencies.

Currently, geophysical surveys for unexploded ordnance (UXO) are being conducted at various Department of the Navy shore facilities using equipment with electromagnetic transmitting detection (ground-penetrating radar, ground conductivity meters, etc.) systems. At the present time, there is no safety criterion governing the use of such equipment near UXO that may contain electrically initiated devices (EIDs). The indiscriminate use of these systems in proximity to UXO may inadvertently initiate the EIDs and detonate the ordnance, causing the loss of life or equipment. Before this equipment is used, it should be evaluated by the Naval Ordnance Safety and Security Activity (NOSSA), N716, for its HERO impact on UXOs.

SURVEY OVERVIEW

During the in brief, survey and station personnel discussed the following HERO concerns:

- The impact of field intensities produced by the new early warning system located on MCAS Camp Pendleton;

- The impact of field intensities produced by cellular phones located on MCAS/MCB Camp Pendleton;

- The impact of field intensities produced by the Air National Guard aircraft located on MCAS Camp Pendleton; and

- The coordination of HERO prevention measures throughout the station and its associated tenant activities.

Each of these concerns is addressed in the Results and Conclusions section of this report. While explanations are provided when necessary, the results have been detailed in Table 2 of this report and should be incorporated into the station HERO instruction.

Since the time of the last survey, several changes have occurred to impact the facility's mission and day-to-day ordnance operations. These changes have occurred as a result of antenna/transmitter installations or removals, and will have some impact on the results of this survey. The changes were documented in this report. The following antenna/transmitter system changes were noted:

- Motorola Spectra and Motorola Astro transmitters were installed in Building 1164.

- The AN/GRT-22 transmitters were removed from Building 2360 and CM-200UT transmitters were installed.

- The AN/PRC-77 transmitter was removed from Building 2396.

- Motorola Spectra and Motorola Astro transmitters were installed in Building 2611.

- The Kenwood 940S, Collins HF80, ALPHA-77DX, and DRK 40-3 transmitters were removed from Building 2699.

- The AN/PRC-119 transmitter was removed from Building 21415.

- An ICOM IC-M59 transmitter was installed in Building 21576.

- The AN/PRC-119 transmitter was removed from Building 21700.

- The AN/VRC-46A and AN/URC-101 transmitters were removed from Building 23100 and a Motorola Spectra and PET-2000 were installed.

- A Motorola Spectra transmitter was installed in Building 23139.

- A Motorola MaxTrac 300 transmitter was installed in Building 23144.

- A Motorola Spectra transmitter was installed in Building 23171.

- A Motorola Spectra transmitter was installed in Building 23185.

- The AN/PRC-77 transmitter was removed from Building 31503.

- The AN/PRC-77 transmitter was removed from Building 31604.

- The IC-M120 transmitter was removed from Building 210556.

- The GE F15xxx40xx transmitter was removed from Building 43100.

- The RT-524 transmitter was removed from Building 43456.

- The GE F15xxxx56x transmitter was removed from Building 43948.

- AN/TRC-176, AN/PRC-113, AN/URC-200, and ICOM IC-V100 transmitters were installed in the Air National Guard Area.

This report provides HERO EMCON guidance tailored for MCAS/MCB Camp Pendleton and is based on EME measurements taken during this survey and data determined analytically when measurements were not specifically recorded.

Field intensities produced by the AN/PRC-119 transmitter coupled to an OE-254 antenna located at Building 210536 were measured on the ordnance transportation route. Calculations were used where necessary to extrapolate for different transmitter power levels and for multiple simultaneous transmissions (i.e., superimposed fields).

The resultant EME levels associated with each of the aforementioned systems were used to determine the HERO EMCON procedures furnished in Tables 1 and 2.

Appendix A provides a table listing antenna/transmitter systems' specifications and includes calculated HERO separation distances. This appendix is a compilation of information from MCAS/MCB Camp Pendleton and references (c) and (d). Appendix B addresses the facility's ordnance. This appendix is a compilation of information [station's ordnance list, reference (c), and recently HERO-certified ordnance data] and sorts each item by Navy Ammunition Logistic Code (NALC). Each item's respective HERO status is also documented (e.g., "No HERO Requirement," "HERO SAFE," "HERO SUSCEPTIBLE," "HERO UNSAFE," or "HERO UNRELIABLE"). Many of these items may be found in reference (c) for identifying susceptibilities and MAEs. Appendix C contains station drawings. These drawings show ordnance storage and operational locations, transportation routes, current transmitter and antenna locations, and HERO zones. Appendix D summarizes measured EMEs. Appendix E shows a recommended HERO warning label and warning sign. Appendix F provides a sample station HERO instruction, which is designed to aid station and other tenant commands in setting HERO EMCON.

RESULTS AND CONCLUSIONS

The following paragraphs present the results of this survey and the conclusions that have been made.

A review of the current base configuration indicates that the power and/or antenna placement of all stationary very high frequency (VHF)/ultra high frequency (UHF) transmitters

and radar systems at MCAS/MCB Camp Pendleton is such that the distance and/or radiation angle with respect to all ordnance locations preclude the need for specific HERO EMCON.

Currently, there is no expeditionary training being conducted at MCAS/MCB Camp Pendleton. The Stuart Mesa landing zone is sited for ordnance handling but is currently leased land. However, these areas were analyzed in the event expeditionary training is conducted at these locations. The HERO EMCON necessary for these locations is described in Table 2 of this report.

Measured and calculated field intensities produced by the AN/PRC-119 transmitter coupled to an OE-254 antenna located at Building 210536 do not exceed the HERO UNSAFE ORDNANCE MAE (0.2 V/m) derived from Figure 2-4 of reference (c) at ordnance operation areas in HERO zone 5. The maximum level recorded for the AN/PRC-119 transmitter was 0.003 V/m at the ordnance transportation route. Therefore, HERO EMCON will not be necessary for this system.

Calculated field intensities that could be produced by the AN/URC-94 system located at Building 23158 were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE (0.2 V/m) derived from Figure 2-4 of reference (c) will be exceeded at ordnance operation areas in HERO zone 4. Therefore, HERO EMCON will be necessary as described in Table 2 of this report.

Calculated field intensities that could be produced by the AN/URC-94 transmitter located in Building 32943 were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE (0.2 V/m) derived from Figure 2-4 and the HERO SUSCEPTIBLE ORDNANCE MAE (12.5 V/m) derived from Figure 2-2 of reference (c) will not be exceeded at ordnance operation areas in HERO zone 3.

Calculated field intensities that could be produced by the ENI-500A system located at Building 31NALX were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE (0.2 V/m) derived from Figure 2-4 of reference (c) will be exceeded at ordnance operation areas in HERO zone 2. Therefore, HERO EMCON will be necessary as described in Table 2 of this report.

Calculated power densities that could be produced by the AN/TPS-59 radar system located in the MCTSSA compound were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO SUSCEPTIBLE ORDNANCE MAE (0.126 mW/cm^2) derived from Figure 2-3 of reference (c) will be exceeded at ordnance operation areas in HERO zone 2. Therefore, HERO EMCON will be necessary as described in Table 2 of this report.

Calculated field intensities that could be produced by the AN/VRC-92A transmitter located in the MCTSSA Compound were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE

(0.2 V/m) derived from Figure 2-4 and the HERO SUSCEPTIBLE ORDNANCE MAE (3.85 V/m) derived from Figure 2-2 of reference (c) will not be exceeded at ordnance operation areas in HERO zone 2.

Calculated field intensities that could be produced by the RT-524/VRC transmitter in the MCTSSA Compound were analyzed with respect to the HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE (0.2 V/m) derived from Figure 2-4 and the HERO SUSCEPTIBLE ORDNANCE MAE (3.85 V/m) derived from Figure 2-2 of reference (c) will not be exceeded at ordnance operation areas in HERO zone 2.

Calculated power densities that could be produced by the AN/TPS-63 radar system located in the MCTSSA compound were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO SUSCEPTIBLE ORDNANCE MAE (0.131 mW/cm^2) derived from Figure 2-3 of reference (c) will be exceeded at ordnance operation areas in HERO zone 2. Therefore, HERO EMCON will be necessary as described in Table 2 of this report.

Calculated field intensities that could be produced by the proposed early warning system were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that the HERO UNSAFE ORDNANCE MAE (2.25 V/m) derived from Figure 2-4 and the HERO SUSCEPTIBLE ORDNANCE MAE (10.11 V/m) derived from Figure 2-2 of reference (c) will not be exceeded at ordnance operation areas at MCAS/MCB Camp Pendleton.

Calculated field intensities that could be produced by cellular telephones were analyzed with respect to HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE. It was determined that cellular telephones and personal pagers should not be operated within ordnance facilities. It is recommended that passive pagers be used to contact personnel in ordnance facilities.

Aircraft supported by MCAS Camp Pendleton employ many different communication and radar emitter systems. Analysis of the operating parameters for these systems indicates that many of them can produce EMEs that exceed the HERO SUSCEPTIBLE and HERO UNSAFE ORDNANCE MAEs on the flight line and in the hangars. (Refer to Table 2 for specific HERO requirements.)

Boats moored at MCB Camp Pendleton employ many different communication and radar emitter systems. Analysis of the operating parameters for these systems indicates that many of them can produce EMEs that exceed the HERO SUSCEPTIBLE and HERO UNSAFE ORDNANCE MAEs in the vicinity of the waterfront. (Refer to Table 2 for specific HERO requirements.)

Mobile and portable communication systems may be installed temporarily at the station. Analysis of the operating parameters for these systems indicates that many of them can produce

EMEs that exceed the HERO SUSCEPTIBLE and HERO UNSAFE ORDNANCE MAEs on the station. (Refer to Table 2 for specific HERO requirements.)

Any changes to the station's antenna/transmitter system or ordnance configurations are subject to the requirements cited in reference (d). This applies even if an activity moves from one site to another within the confines of the facility.

It is recommended that the station and all respective tenant activities work together in the setting and monitoring of HERO EMCON. Recommendations are provided in Appendix F of this report. In order to facilitate the setting of HERO EMCON, a POC "call list" listing those activities affected by HERO should be established and maintained by the Command Duty Officer.

HERO SUSCEPTIBLE ORDNANCE

Reference (c) contains data sheets for HERO SUSCEPTIBLE ORDNANCE. These data sheets provide details of the ordnance's susceptibility and the corresponding MAEs for given frequency ranges and ordnance operations. Tables 1 and 2 provide EMCON procedures for operations involving HERO SUSCEPTIBLE ORDNANCE. HERO EMCON or ordnance handling restrictions apply to all HERO SUSCEPTIBLE ORDNANCE operations. At MCAS/MCB Camp Pendleton, these restrictions are limited to mobile and portable transmitters. Where specific transmitters are not addressed in Table 2, the HERO SUSCEPTIBLE ORDNANCE separation distances as listed in Appendix A of this report apply.

HERO UNSAFE ORDNANCE

HERO UNSAFE ORDNANCE should not be exposed where unknown or possibly excessive EMEs exist. As explained in reference (c), certain procedures can cause HERO SAFE ORDNANCE to become HERO UNSAFE. [Note: When HERO UNSAFE ORDNANCE is enclosed in a sealed, all-metal container, only the general HERO requirements cited in Chapter 5 of reference (c) apply.] Reference (c) provides additional discussion and definitions. Whenever HERO UNSAFE ORDNANCE is exposed to the EMEs, EMCON is necessary.

In the unlikely event of an ordnance accident, all ordnance containing EIDs, even those normally classified HERO SAFE ORDNANCE, must be considered HERO UNSAFE ORDNANCE. This is because possible changes in the ordnance configuration may result in a loss or reduction of radio frequency (RF)-protective features. Should an accident occur while transporting ordnance, HERO EMCON will be necessary. Units responding to such an incident (security, fire, medical, EOD, and ordnance personnel) may arrive at the scene with multiple radio equipment. Multiple VHF radio transmitters could pose an additional threat to this HERO UNSAFE situation unless properly managed. Detailed procedures are provided in Table 2 of this report.

RECOMMENDATIONS

The following recommendations are provided for incorporation into the station's HERO instruction.

General

- Transport and store HERO UNSAFE ORDNANCE in sealed, all-metal containers.

- When transporting HERO SUSCEPTIBLE ORDNANCE, comply with the ordnance handling requirements listed in Chapter 5 of reference (c) and this report.

- Establish a HERO liaison at each tenant activity to document and monitor future emitter and ordnance operation changes within the activity. This POC should relate all such changes to station Weapons Officer.

- The station Weapons Officer should coordinate the HERO program and account for all station and tenant command information concerning ordnance inventory/operations and antenna/transmitter systems present. Additionally, the station Weapons Officer should ensure future transmitter and antenna changes at MCAS/MCB Camp Pendleton are submitted for HERO review in accordance with reference (d).

- Post and maintain HERO warning signs at all entrance gates to ordnance areas. (Appendix E illustrates a recommended warning sign.)

- Observe the HERO separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for transmitters on aircraft.

- Ensure boats moored at the station silence all onboard emitters whenever ordnance operations occur within the HERO separation distances listed in Appendix A of their respective report or Chapter 2 of reference (c).

- Observe the HERO separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for cellular telephones and mobile and portable radios, and affix HERO warning labels stating separation distances for HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE to units. (Appendix E illustrates a recommended label.)

- Maintain control over the number, type, and placement of temporary emitter systems installed at station. The safe separation distances listed in Chapter 2 of reference (c) should be reviewed prior to installation and compared to ordnance locations in order to minimize HERO.

- Ensure that operators of privately owned amateur and citizens band radios and cellular telephones are familiar with HERO and safe separation distance requirements for mobile transmitters.

• Ensure that radios installed in ordnance handling vehicles maintain the minimum 10-foot antenna-to-ordnance separation distance required for HERO SAFE ORDNANCE. [See Chapter 5, paragraph 5-4.4 of reference (c).]

• Ensure that operators, handlers, and riggers transferring ordnance maintain a minimum safe separation distance of 15 feet (5 meters) from HERO UNSAFE ORDNANCE when using single portable radios operating in the 136-174 MHz frequency range and at a maximum output power of 2 watts. For the use of other single portable radios, refer to Appendix A of this report or Chapter 2 of reference (c) for applicable safe separation distances.

• Prior to conducting geophysical surveys for UXO using equipment with electromagnetic transmitting detection/location (ground-penetrating radar, ground conductivity meters, etc.) systems, contact NOSSA, N716, for HERO safety guidance.

• Any changes to the station's antenna/transmitter system or ordnance configurations are subject to the requirements cited in reference (d). This applies even if an activity moves from one site to another within the confines of the facility.

• For transmitters and ordnance not specifically addressed in this report, see reference (c) for HERO guidance.

HERO EMCON

• Refer to Tables 1 and 2 for HERO EMCON applications and procedures at MCAS/MCB Camp Pendleton.

• Cellular telephones and personal pagers should not be operated within ordnance facilities. It is recommended that passive pagers be used to contact personnel in ordnance facilities.

• Keyless entry systems should not be radiated within ordnance facilities. It is recommended that these systems not be allowed into ordnance facility work areas.

• If HERO UNSAFE or HERO SUSCEPTIBLE ORDNANCE is exposed on the flight line or in the hangars, silence or apply the HERO separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for transmitters on all aircraft. Exceptions are VHF and UHF transmitters operating at less than 20 watts output power if HERO UNSAFE ORDNANCE is exposed or less than 40 watts output power if HERO SUSCEPTIBLE ORDNANCE is exposed. All transmitters may operate into dummy loads.

• In the event of an ordnance accident, ensure that response units maintain a minimum separation distance of 150 feet from the accident site when 3 or more VHF/UHF mobile radios are in use, and 50 feet when 3 or more portable VHF radios are in use. For single VHF radio use, see the applicable separation distances listed in Appendix A of this report.

• In order to simplify the application of HERO EMCON, the station has been divided into the following zones (see Appendix C for illustration):

Zone 1 - Landing Zone site 20, Landing Zone site 21, Landing Zone site 22, LHA pad/Landing Zone Red Beach and AV-8 pad 1, AV-8 pad 3/Landing Zone Aliso Creek

Zone 2 - Landing Zone Stuart Mesa, Ordnance Transportation Route

Zone 3 - Landing Zone Del Mar Boat Basin, Ordnance Transportation Route

Zone 4 - MCAS Flight Line and Runway

Zone 5 - MCAS CALA and Ordnance Transportation Route

Zone 6 - ASP and Range Areas

TABLE 1. HERO SUMMARY

NALC	Ordnance	Situation/ Activity	Location	HERO CONDITION
General Applications				
All	HERO SAFE ORDNANCE	Presence, handling, and loading	All locations	0
All	HERO UNSAFE ORDNANCE	Presence, handling, and loading	Zone 1 Zone 2 Zone 3 Zone 4 Zone 5 Zone 6	1 2 3 4 5 3
All	HERO SUSCEPTIBLE ORDNANCE	Presence, handling, and loading	Zone 1 Zone 2 Zone 3 Zone 4 Zone 5 Zone 6	6 7 6 6 6 6

TABLE 2. HERO EMCON PROCEDURES

HERO CONDITION 0

HERO EMCON is not required; all transmitters (as listed in Appendix A of this report) may be operated. Observe the general HERO requirements outlined in Chapter 5 of reference (c).

HERO CONDITION 1

This condition applies to HERO UNSAFE ORDNANCE in HERO zone 1.

- Observe the HERO UNSAFE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters, boat transmitters, aircraft transmitters, and mobile and portable transmitters.

- For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the separation distances cited in Appendix A of this report or Chapter 2 of reference (c) for that specific mobile or portable unit.

TABLE 2. HERO EMCON PROCEDURES (CONT.)

HERO CONDITION 2

This condition applies to HERO UNSAFE ORDNANCE in HERO zone 2.

- Silence the ENI-500A transmitter systems in Building 31NALX.

- Silence the AN/TPS-59 radar system in the MCTSSA compound.

- Silence the AN/TPS-63 radar system in the MCTSSA compound.

- Observe the HERO UNSAFE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters, aircraft transmitters, and mobile and portable transmitters.

- For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the separation distances cited in Appendix A of this report or Chapter 2 of reference (c) for that specific mobile or portable unit.

HERO CONDITION 3

This condition applies to HERO UNSAFE ORDNANCE in HERO zones 3 and 6.

- Observe the HERO UNSAFE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters, aircraft transmitters, and mobile and portable transmitters.

- For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the separation distances cited in Appendix A of this report or Chapter 2 of reference (c) for that specific mobile or portable unit.

TABLE 2. HERO EMCON PROCEDURES (CONT.)

HERO CONDITION 4

This condition applies to HERO UNSAFE ORDNANCE in HERO zone 4.

- Silence the AN/URC-94 transmitter in the mobile shelter near Building 23158.

- Silence all aircraft transmitters except VHF/UHF communications transmitters less than 20 watts or transmitters operating into dummy loads.

- Observe the HERO UNSAFE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters and mobile and portable transmitters.

- For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the separation distances cited in Appendix A of this report or Chapter 2 of reference (c) for that specific mobile or portable unit.

HERO CONDITION 5

This condition applies to HERO UNSAFE ORDNANCE in HERO zone 5.

- Silence all aircraft transmitters except VHF/UHF communications transmitters less than 20 watts or transmitters operating into dummy loads.

- Observe the HERO UNSAFE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters and mobile and portable transmitters.

- For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the separation distances cited in Appendix A of this report or Chapter 2 of reference (c) for that specific mobile or portable unit.

TABLE 2. HERO EMCON PROCEDURES (CONT.)

HERO CONDITION 6

This condition applies to HERO SUSCEPTIBLE ORDNANCE in HERO zones 1, 3, 4, 5, and 6.

• Observe the HERO SUSCEPTIBLE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters, boat transmitters, aircraft transmitters, and mobile and portable transmitters.

HERO CONDITION 7

This condition applies to HERO SUSCEPTIBLE ORDNANCE in HERO zone 2.

• Silence the AN/TPS-59 and AN/TPS-63 radar systems in the MCTSSA compound.

• Observe the HERO SUSCEPTIBLE ORDNANCE separation distances listed in Appendix A of this report or Chapter 2 of reference (c) for all Marine Corps tactical communication and radar transmitters, aircraft transmitters, and mobile and portable transmitters.

APPENDIX A

ANTENNA AND TRANSMITTER SYSTEMS

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MCAS CAMP PENDLETON								
BLDG 2360	D2118	MULTIDIPOLE	2.1	118 - 137	25	CM-200VT	65 / 20	13 / 4
PMO SITE (OLD TOWER)	D2219	MULTIDIPOLE	2.1	225 - 400	25	CM-200UT	34 / 10	10 / 3
	DB 404	OMNI DIRECTIONAL	7.1	403 - 512	40	MOTOROLA SPECTRA	24 / 7	10 / 3
	HAD4006A	WHIP	2.1	136 - 174	20	MOTOROLA MAXTRAC	89 / 27	19 / 6
BLDG 2370 ARFF	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
BLDG 2389 AFLICS VAULT	SCALA GPU-75	OMNI DIRECTIONAL	2.1	75	1	ESTEEM EST MODEL 95	20 / 6	10 / 3
BLDG 2399 OPS	UVU-100	DIPOLE	2.1	118 - 137	5	PET-2000	29 / 9	10 / 3
			2.1	225 - 400	5		15 / 5	10 / 3
	N/A	OMNI DIRECTIONAL	10.0	410	2	MOTOROLA R NET 9600	13 / 4	10 / 3
	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
BLDG 23100 AIR TRAFFIC	TACO D-2295	COLINEAR ARRAY	1.0	225 - 400	25	AN/GRC-171	30 / 9	10 / 3
CONTROL TOWER	TACO D-2296	COLINEAR ARRAY	1.0	116 - 152	25	AN/GRC-211	58 / 18	12 / 4
	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
	TACO D-2213	COLINEAR ARRAY	2.1	118 - 137	25	CM-200VT	65 / 20	13 / 4
	TACO D-2218	COLINEAR ARRAY	2.1	225 - 400	25	CM-200UT	34 / 10	10 / 3
	UVU-100	DIPOLE	2.1	118 - 137	5	PET-2000	29 / 9	10 / 3
			2.1	225 - 400	5		15 / 5	10 / 3
	SCALA GPU-75	OMNI DIRECTIONAL	2.1	75	1	ESTEEM EST MODEL 95	20 / 6	10 / 3
BLDG 23139 EOD	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
BLDG 23144 HANGAR 2	N/A	FOLDED DIPOLE	2.1	225 - 400	40	MOTOROLA MAXTRAC 300	43 / 13	11 / 3
BLDG 23158	AS-3160/UPN	PHASED ARRAY	40.3	9000 - 9160	66	AN/FPN-63 (FIXED)	173 / 53	122 / 37
PAR SITE AND MOBILE SHELTER	AS-3161/UPN	PHASED ARRAY	39.7	9000 - 9160	79.2	AN/FPN-63 (MTI)	177 / 54	125 / 38
	TACO D2221	COLINEAR ARRAY	1.0	225 - 400	25	AN/GRC-171	30 / 9	10 / 3
	TACO D2212	COLINEAR ARRAY	1.0	116 - 152	25	AN/GRC-211	58 / 18	12 / 4
	AT-1011/U	WHIP	2.1	2 - 30	100	AN/URC-94	1146 / 349	115 / 35
			2.1	30 - 32	50		810 / 247	42 / 13
			2.1	32 - 80	50		338 / 103	41 / 12
	TACO	COLINEAR	3.1	30 - 32	15	AN/ARC-210	498 / 152	26 / 8
			3.1	32 - 88	15		208 / 63	25 / 8
		ARRAY	3.1	108 - 156	15		61 / 19	12 / 4
			3.1	136 - 174	22		59 / 18	13 / 4
			3.1	225 - 400	22		36 / 11	10 / 3
BLDG 23171	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
BLDG 23185 FUELS	TDE7230A	OMNI DIRECTIONAL	5.1	403 - 512	40	MOTOROLA SPECTRA	34 / 10	11 / 3
AIR	UVU-200	DIPOLE	2.5	116 - 150	10	AN/TRC-176	44 / 13	10 / 3
NATIONAL			2.5	225 - 400	10		22 / 7	10 / 3
GUARD	N/A	WHIP	2.1	115 - 174	10	AN/URC-200	42 / 13	10 / 3
			2.1	225 - 400	10		21 / 7	10 / 3
	N/A	DIPOLE	3.0	116 - 150	10	AN/PRC-113	46 / 14	10 / 3
			3.0	225 - 400	10		24 / 7	10 / 3

N/A = Not assigned

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MCAS CAMP PENDLETON								
	N/A	WHIP	2.1	136 - 174	50	ICOM IC-V100	79 / 24	17 / 5
ASOS SITE	N/A	OMNI DIRECTIONAL	10.0	410	2	MOTOROLA R NET 9600	13 / 4	10 / 3
BEACON	SCALA GPU-75	OMNI DIRECTIONAL	2.1	75	1	ESTEEM EST MODEL 95	20 / 6	10 / 3
SIAC	TACO D2213	COLINEAR ARRAY	3.1	225 - 400	25	CM-200UT	38 / 12	10 / 3
STROBES	SCALA GPU-75	OMNI DIRECTIONAL	2.1	75	1	ESTEEM EST MODEL 95	20 / 6	10 / 3
EARLY WARNING SYSTEM	N/A	OMNI DIRECTIONAL	3.0	150 - 170	4	WPS-2800-5	23 / 7	10 / 3
			3.0	450 - 470	4		10 / 3	10 / 3
MCB CAMP PENDLETON								
BLDG 1164	N/A	DIPOLE	2.1	136 - 174	45	MOTOROLA SPECTRA	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
	N/A	DIPOLE	2.1	136 - 174	45	MOTOROLA ASTRO	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
BLDG 2611	N/A	DIRECTIONAL ARRAY	3.0	136 - 174	45	MOTOROLA SPECTRA	84 / 25	18 / 5
			3.0	403 - 512	40		27 / 8	10 / 3
	N/A	WHIP	2.1	136 - 174	45	MOTOROLA ASTRO	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
BLDG 13156 AKRON	N/A	MONOPOLE	2.1	136 - 174	100	MOTOROLA REPEATER	112 / 34	24 / 7
	N/A	MONOPOLE	2.1	136 - 174	60	MOTOROLA BASE STATION	87 / 27	19 / 6
			2.1	403 - 512	60		29 / 9	10 / 3
BLDG 21550 DEL MAR MARINA	SHAKESPEARE	WHIP	8.1	156 - 157	25	ICOM IC-M59	98 / 30	22 / 7
BLDG 21576	SHAKESPEARE	WHIP	5.1	156 - 157	25	ICOM IC-M59	69 / 21	16 / 5
BLDG 31503	N/A	DIPOLE	2.1	136 - 174	45	MOTOROLA SPECTRA	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
BLDG 31604	N/A	WHIP	2.1	136 - 174	45	MOTOROLA CDM 750	75 / 23	16 / 5
				403 - 512	40		19 / 6	10 / 3
	N/A	DIRECTIONAL ARRAY	3.0	136 - 174	45	MOTOROLA SPECTRA	84 / 25	18 / 5
			3.0	403 - 512	40		27 / 8	10 / 3
BLDG 32943	OE-258	DIPOLE ARRAY	6.0	962 - 1215	400	AN/URN-25	77 / 23	38 / 12
TACAN SITE	TACO	COLINEAR ARRAY	3.1	225 - 400	25	AN/GRC-171	38 / 12	10 / 3
	TACO	COLINEAR ARRAY	3.1	116 - 152	25	AN/GRC-211	74 / 23	15 / 5
	TACO	COLINEAR ARRAY	3.1	2 - 30	100	AN/URC-94	1286 / 392	129 / 39
			3.1	30 - 80	50		909 / 277	47 / 14
	TACO	COLINEAR ARRAY	3.1	30 - 90	10	AN/PRC-117	407 / 124	21 / 6
			3.1	90 - 400	20		85 / 26	15 / 5
			3.1	400 - 512	10		14 / 4	10 / 3
	TACO	COLINEAR ARRAY	3.1	116 - 150	10	AN/PRC-113	47 / 14	10 / 3
			3.1	225 - 400	10		24 / 7	10 / 3
	TACO	COLINEAR ARRAY	3.1	30 - 88	15	AN/ARC-210	498 / 152	26 / 8
			3.1	108 - 156	15		61 / 19	12 / 4
			3.1	136 - 174	22		59 / 18	13 / 4
			3.1	225 - 400	22		36 / 11	10 / 3
	N/A	PHASED ARRAY	39.0	2895 - 8995	180	AN/TPN-22	765 / 233	541 / 165
BLDG 210536	OE-254	BI-CONICAL	5.1	30 - 88	50	AN/PRC-119	1145 / 349	59 / 18
	SHAKESPEARE	WHIP	8.1	156 - 157	25	ICOM IC-M59	98 / 30	22 / 7

N/A = Not assigned

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MCB CAMP PENDLETON (CONT.)								
BLDG 210567	OE-254	BI-CONICAL	5.1	30 - 32	50	AN/PRC-119	1145 / 349	59 / 18
			5.1	>32 - 88	50		477 / 145	57 / 17
BLDG 210571	OE-254	BI-CONICAL	5.1	30 - 32	50	AN/PRC-119	1145 / 349	59 / 18
			5.1	>32 - 88	50		477 / 145	57 / 17
BLDG 210725	N/A	WHIP	2.1	136 - 174	45	MOTOROLA SPECTRA	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
BLDG 43390	N/A	GROUND PLANE	2.1	118 - 137	25	CM-200VT	65 / 20	13 / 4
RANGE CONTROL	N/A	GROUND PLANE	2.1	225 - 400	25	CM-200UT	34 / 10	10 / 3
	N/A	WHIP	2.1	30 - 32	35	RT-524A/VRC	678 / 207	35 / 11
			2.1	>32 - 75	35		283 / 86	34 / 10
	N/A	WHIP	2.1	30 - 32	35	RT-246A/VRC	678 / 207	35 / 11
			2.1	>32 - 75	35		283 / 86	34 / 10
HILL 632	N/A	MONOPOLE	2.1	406 - 410	110	REPEATER	39 / 12	13 / 4
	N/A	DIRECTIONAL ARRAY	3.0	136 - 174	45	MOTOROLA SPECTRA	84 / 25	18 / 5
			3.0	403 - 512	40		27 / 8	10 / 3
REMOTE SITE	N/A	PARABOLIC	35.0	2700 - 2900	1462	ASR-9	1474 / 449	1043 / 318
ALL GATES	N/A	WHIP	2.1	136 - 174	45	MOTOROLA SPECTRA	75 / 23	16 / 5
			2.1	403 - 512	40	OR	24 / 7	10 / 3
	N/A	WHIP	2.1	136 - 174	45	MOTOROLA ASTRO	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
MCTSSA								
J-CART	DPV-75	OMNI DIRECTIONAL	8.0	969 - 1206	200	AN/URC-107	68 / 21	34 / 10
	N/A	WHIP	0.0	30 - 32	40	AN/VRC-92A	569 / 174	30 / 9
SEATRAIN			0.0	>32 - 88	40		237 / 72	28 / 9
	N/A	WHIP	0.0	2 - 30	300	AN/GRC-193	1559 / 475	156 / 48
RADAR DOME (MCTSSA)	N/A	PARABOLIC	32.5	1250	8000	AN/TPS-63	5585 / 1703	3068 / 935
	N/A	DIPOLE	2.1	1030	5.5	AN/UPX-27	10 / 3	10 / 3
MCTSSA BACK LOT	N/A	PLANER ARRAY	39.0	1215 - 1400	11500	AN/TPS-59	14561 / 4439	7908 / 2411
	N/A	DIRECTIONAL	17.0	1030	500	AN/UPX-37	284 / 87	145 / 44
SE & ISD RADIO	N/A	OPEN GRID REFLECTOR	20.0	1350 - 1850	3	AN/MRC-142	24 / 7	13 / 4
GCE NODE	N/A	WHIP	2.1	420 - 450	100	EPLRS	36 / 11	12 / 4
AN/TYQ-23 SITE	N/A	WHIP	10.0	225 - 400	50	AN/GRC-171	119 / 36	31 / 10
	N/A	WHIP	4.0	30 - 32	65	RT-524/VRC	1150 / 351	60 / 18
			4.0	>32 - 76	65		479 / 146	58 / 18
	N/A	WHIP	4.0	2 - 30	1000	RF-130-01/02	4511 / 1375	451 / 138
MCTSSA COMPOUND	CLASSIFIED	CLASSIFIED	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/MPQ-62	350 / 107	247 / 75
BLDG 31NALX	TCI-513-1	LOG PERIODIC	9.0	4.5 - 30	500	ENI-500A	5672 / 1729	567 / 173
	2020A	CONICAL MONOPOLE	4.0	3 - 30	500		3190 / 972	319 / 97
	CHA2-30	HELICAL MONOPOLE	2.1	2 - 30	500		2563 / 781	256 / 78
	AR-1218	LOG PERIODIC	9.1	50 - 1000	100	ENI-5100L	684 / 209	98 / 30
	TECOM	PARABOLIC	9.1	400 - 1000	100	ENI 6100	86 / 26	28 / 9

N/A = Not assigned

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
RIBBOATS								
	SHAKESPEARE 5215	WHIP	5.1	156 - 157	25	APELCO 45	69 / 21	16 / 5
	SHAKESPEARE 5215	WHIP	5.1	156 - 157	25	ICOM IC-M59	69 / 21	16 / 5
	N/A	RADOME	25.0	9380 - 9440	1.92	FURUNO 1721	10 / 3	10 / 3
	N/A	RADOME	25.0	9380 - 9440	3.5	RAYTHEON PATHFINDER SL 70	10 / 3	10 / 3
LCAC								
HF/SSB	N/A	LONGWIRE	2.1	2 - 30	100	AN/URC-92	1146 / 349	115 / 35
AM		LONGWIRE	2.1	2 - 30	35		678 / 207	68 / 21
	HX-101	DIPOLE	-1.0	30 - 32	15	AN/ARC-182(V)	311 / 95	16 / 5
			-1.0	>32 - 88	15		129 / 39	16 / 5
			-1.0	118 - 156	10		29 / 9	10 / 3
			-1.0	156 - 174	15		27 / 8	10 / 3
			-1.0	225 - 400	15		18 / 6	10 / 3
	938-K1	DIPOLE	-18.0	30 - 32	15	AN/ARC-182(V)	44 / 13	10 / 3
			-18.0	>32 - 88	15		18 / 6	10 / 3
			-18.0	118 - 156	10		10 / 3	10 / 3
			-18.0	156 - 174	15		10 / 3	10 / 3
			-18.0	225 - 400	15		10 / 3	10 / 3
	HX-101	DIPOLE	-1.0	30 - 88	50	AN/ARC-182(V)	567 / 173	29 / 9
	938-K1	DIPOLE	-18.0	30 - 88	50	with AM-7189A	80 / 24	10 / 3
	N/A	STUB	0.9	148 - 157	2.5	MOTOROLA H33SX	14 / 4	10 / 3
	N/A	STUB	0.9	148 - 157	5	MOTOROLA H43YX	20 / 6	10 / 3
NAV. RADAR	LN 66	SLOTTED ARRAY	30.0	9345 - 9405	6.25	LN-66 or CMR 90	16 / 5	11 / 3
IFF	AS-177/UPX	DIPOLE	2.8	1090	3.38	AN/APX-100	10 / 3	10 / 3
IFF	AS-177/UPX	DIPOLE	2.8	1090	3.38	AN/APX-72A	10 / 3	10 / 3
PLRS	AS-3447/ASQ	BLADE	2.1	420 - 450	0.4	AN/KSQ-1	10 / 3	10 / 3
			2.1	420 - 450	3		10 / 3	10 / 3
			2.1	420 - 450	20		16 / 5	10 / 3
			2.1	420 - 450	100		36 / 11	12 / 4
	HX-101	DIPOLE	-1.0	30 - 88	3	AN/VRC-43 (RT-246A/VRC)	139 / 42	10 / 3
			-1.0	32 - 88	3		58 / 18	10 / 3
			-1.0	30 - 32	35		475 / 145	25 / 8
			-1.0	>32 - 88	35		198 / 60	24 / 7
AH-1 AIRCRAFT								
COMMUNICATIONS	N/A	LONGWIRE	2.1	2 - 30	400	AN/ARC-102	2292 / 699	229 / 70
	AS-3881/ASQ	BLADE	2.1	30 - 32	15	AN/ARC-210	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	108 - 156	15		55 / 17	11 / 3
			2.1	136 - 174	22		53 / 16	11 / 3
	OR		2.1	225 - 400	22		32 / 10	10 / 3
	AS-3881/ASQ	BLADE	2.1	30 - 32	100	AN/ARC-210	1146 / 349	60 / 18
			2.1	>32 - 88	100		478 / 146	57 / 17
			2.1	108 - 156	100	W/AMPLIFIER	142 / 43	28 / 8
			2.1	136 - 174	125		126 / 38	27 / 8
	OR		2.1	225 - 400	125		76 / 23	20 / 6
	AS-3881/ASQ	BLADE	2.1	30 - 32	15	AN/ARC-182	444 / 135	23 / 7

N/A = Not assigned

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
AH-1 AIRCRAFT (CONT.)								
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	118 - 156	10		41 / 12	10 / 3
			2.1	156 - 174	15		38 / 12	10 / 3
			2.1	225 - 400	15		26 / 8	10 / 3
	AS-3688	BLADE	3.0	225 - 400	40	AN/ARC-159A(V)	48 / 15	12 / 4
IFF	AT-741B/A	BLADE	2.6	1090	2.5	AN/APX-72	10 / 3	10 / 3
			26.2	13250	0.2	AN/APN-217(V)3	10 / 3	10 / 3
ALTIMETER	AS-1858/APN	HORN	13.0	4290 - 4310	0.5	AN/APN-171(V)	10 / 3	10 / 3
TACAN	N/A	FLAT ARRAY	2.6	1025 - 1150	3.5	AN/ARN-153	10 / 3	10 / 3
TRANSPONDER	AS-3392/ASQ	BLADE	2.1	1090	3.38	AN/APX-100	10 / 3	10 / 3
RADAR	AS-2595/APN	N/A	10.5	4200 - 4400	0.6	AN/APN-194	10 / 3	10 / 3
	DMC-118-1	BLADE	3.0	30 - 88	10	AN/ARC-186(V)	402 / 123	21 / 6
			3.0	108 - 152	10		50 / 15	10 / 3
UH-1 AIRCRAFT								
COMMUNICATIONS	N/A	LONGWIRE	2.1	2 - 30	400	AN/ARC-102	2292 / 699	229 / 70
	AS-3881/ASQ	BLADE	2.1	30 - 32	15	AN/ARC-210	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	108 - 156	15		55 / 17	11 / 3
			2.1	136 - 174	22		53 / 16	11 / 3
	OR		2.1	225 - 400	22		32 / 10	10 / 3
	AS-3881/ASQ	BLADE	2.1	30 - 32	100	AN/ARC-210	1146 / 349	60 / 18
			2.1	>32 - 88	100	W/AMPLIFIER	478 / 146	57 / 17
			2.1	108 - 156	100		142 / 43	28 / 8
			2.1	136 - 174	125		126 / 38	27 / 8
	OR		2.1	225 - 400	125		76 / 23	20 / 6
	AS-3881/ASQ	BLADE	2.1	30 - 32	15	AN/ARC-182	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	118 - 156	10		41 / 12	10 / 3
			2.1	156 - 174	15		38 / 12	10 / 3
			2.1	225 - 400	15		26 / 8	10 / 3
	AS-3688	BLADE	3.0	225 - 400	40	AN/ARC-159A(V)	48 / 15	12 / 4
IFF	AT-741B/A	BLADE	2.6	1090	2.5	AN/APX-72	10 / 3	10 / 3
	N/A	N/A	26.2	13250	0.2	AN/APN-217(V)3	10 / 3	10 / 3
ALTIMETER	AS-1858/APN	HORN	13.0	4290 - 4310	0.5	AN/APN-171(V)	10 / 3	10 / 3
TACAN	N/A	FLAT ARRAY	2.6	1025 - 1150	3.5	AN/ARN-153	10 / 3	10 / 3
	DMC-118-1	BLADE	3.0	30 - 32	10	AN/ARC-186(V)	402 / 123	21 / 6
			3.0	>32 - 88	10		168 / 51	20 / 6
			3.0	108 - 152	10		50 / 15	10 / 3
CH-46 AIRCRAFT								
COMMUNICATIONS	N/A	LONGWIRE	2.1	2 - 30	400	AN/ARC-94	2292 / 699	229 / 70
	AS-3881/ASQ	BLADE	2.1	30 - 32	15	AN/ARC-210	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	108 - 156	15		55 / 17	11 / 3
			2.1	136 - 174	22		53 / 16	11 / 3
	OR		2.1	225 - 400	22		32 / 10	10 / 3

N/A = Not assigned

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
CH-46 AIRCRAFT								
	AS-3191/A	BLADE	2.1	30 - 32	15	AN/ARC-182(V)	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	118 - 156	15		50 / 15	10 / 3
			2.1	156 - 174	15		38 / 12	10 / 3
			2.1	225 - 400	15		26 / 8	10 / 3
TRANSPONDER	AT-741/A	BLADE	2.6	1090	2.5	AN/APX-72	10 / 3	10 / 3
TACAN	N/A	FLAT ARRAY	2.6	1025 - 1150	3.5	AN/ARN-118(V)	10 / 3	10 / 3
ALTIMETER	N/A	N/A	13.0	4290 - 4310	3	AN/APN-171(V)	10 / 3	10 / 3
	DMC-118-1	BLADE	3.0	30 - 32	10	AN/ARC-186(V)	402 / 123	21 / 6
			3.0	>32 - 88	10		168 / 51	20 / 6
			3.0	108 - 152	10		50 / 15	10 / 3
	AT-141A/ARC	BLADE	2.1	225 - 400	20	AN/ARC-51A	30 / 9	10 / 3
BEACON	N/A	STUB	4.0	8500 - 9600	8	AN/APN-154(V)	10 / 3	10 / 3
C-130 AIRCRAFT*								
TRANSPONDER	AT-741/A	BLADE	2.6	1090	2.5	AN/APX-72	10 / 3	10 / 3
	AS-3060/G	DIPOLE ARRAY	6.0	30 - 32	15	AN/ARC-186	695 / 212	36 / 11
			6.0	>32 - 152	15		290 / 88	35 / 11
	N/A	LONGWIRE	2.1	2 - 30	400	AN/ARC-190	2292 / 699	229 / 70
	AS-3191/A	BLADE	2.1	30 - 32	15	AN/ARC-182(V)	444 / 135	23 / 7
			2.1	>32 - 88	15		185 / 56	22 / 7
			2.1	118 - 156	15		50 / 15	10 / 3
			2.1	156 - 174	15		38 / 12	10 / 3
			2.1	225 - 400	15		26 / 8	10 / 3
ALTIMETER	N/A	N/A	13.0	4290 - 4310	3	AN/APN-159	10 / 3	10 / 3
TACAN	N/A	FLAT ARRAY	2.6	1025 - 1150	3.5	AN/ARN-118(V)	10 / 3	10 / 3
RADAR	N/A	PARABOLIC	34.5	9500 - 10050	500	AN/APS-137	231 / 71	164 / 50
CH-53 AIRCRAFT*								
COMMUNICATIONS	N/A	LONGWIRE	2.1	2 - 30	400	AN/ARC-94 or	2292 / 699	229 / 70
			2.1	2 - 30	400	COLLINS 618T-2 OR	2292 / 699	229 / 70
			2.1	2 - 30	400	AN/ARC-190	2292 / 699	229 / 70
	DMC-118-1	BLADE	3.0	30 - 32	10	AN/ARC-186(V)	402 / 123	21 / 6
			3.0	>32 - 88	10		168 / 51	20 / 6
			3.0	108 - 152	10	AN/ARC-186(V)	50 / 15	10 / 3
	AT-141A/ARC	BLADE	2.1	225 - 400	20	AN/ARC-51A	30 / 9	10 / 3
IFF	N/A	N/A	16.0	1090	2.5	AN/APX-72	17 / 5	10 / 3
BEACON	N/A	N/A	4.0	8500 - 9600	8	AN/APN-154(V)	10 / 3	10 / 3
ALTIMETER	AS-1858/APN	N/A	13.0	4300	0.5	AN/APN-171(V)	10 / 3	10 / 3
	N/A	N/A	28.0	13300	5	AN/APN-182(V)	10 / 3	10 / 3
TACAN	M25708/1-01	N/A	4.0	1025 - 1150	3.15	AN/ARN-84(V)	10 / 3	10 / 3
TACAN	M25708/1-01	N/A	2.1	1025 - 1150	6	AN/ARN-84(V)	10 / 3	10 / 3
MOBILES AND PORTABLES								
	N/A	STUB	0.9	136 - 174	5	MOTOROLA HT750	22 / 7	10 / 3
			0.9	403 - 470	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA HT1000	22 / 7	10 / 3
			0.9	403 - 520	4		10 / 3	10 / 3

N/A = Not assigned

* Visiting aircraft

TABLE A-1. COMMUNICATIONS AND RADAR TRANSMITTERS (CONT.)

Building Number	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Max. Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MOBILES AND PORTABLES (CONT.)								
	N/A	STUB	0.9	136 - 174	5	MOTOROLA MT 2000	22 / 7	10 / 3
			0.9	450 - 470	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA MT 2000 FLASHPORT	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA MTS 2000	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA STX-2000	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA STX-3000	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA ASTRO	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA ASTRO SABER	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA SABER	22 / 7	10 / 3
				405 - 520	4		10 / 3	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA SABER R	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	WHIP	2.1	136 - 174	45	MOTOROLA SPECTRA	75 / 23	16 / 5
			2.1	403 - 512	40		24 / 7	10 / 3
	N/A	STUB	0.9	136 - 174	5	MOTOROLA SYSTEM SABER	22 / 7	10 / 3
			0.9	405 - 520	4		10 / 3	10 / 3
	N/A	WHIP	2.1	136 - 174	50	BENDIX/KING EMH	79 / 24	17 / 5
	N/A	WHIP	2.1	403 - 470	40	BENDIX/KING EMV	24 / 7	10 / 3
	N/A	WHIP	2.1	136 - 174	50	ICOM IC-V100	79 / 24	17 / 5
	N/A	WHIP	2.1	136 - 174	40	UNIDEN	71 / 22	15 / 5
	N/A	WHIP	2.1	450 - 470	25	UNIDEN	17 / 5	10 / 3
	N/A	WHIP	2.1	806 - 821	15	UNIDEN	11 / 3	10 / 3
	N/A	WHIP	2.1	243	0.1	AN/PRC-90(V)2	10 / 3	10 / 3
	N/A	DIPOLE	3.0	116 - 150	10	AN/PRC-113	46 / 14	10 / 3
			3.0	225 - 400	10		24 / 7	10 / 3
	N/A	WHIP	2.1	3 - 32	4	AN/PRC-119	229 / 70	23 / 7
			2.1	>32 - 88	4		96 / 29	11 / 3
	UVU-200	DIPOLE	2.5	116 - 150	10	AN/TRC-176	44 / 13	10 / 3
			2.5	225 - 400	10		22 / 7	10 / 3
	N/A	WHIP	2.1	115 - 174	10	AN/URC-200	42 / 13	10 / 3
			2.1	225 - 400	10		21 / 7	10 / 3

N/A = Not assigned

APPENDIX B

ORDNANCE

NOMENCLATURE

A	Bombs, Components, and Countermeasures
A/C	Aircraft
AC	Aircraft, common
ACFT	Aircraft
AGM	Air-to-ground missile
AIM	Air intercept missile
AMMO	Ammunition
AN	Army/Navy
AN/ALE	Army/Navy air launched, expendable
API	Armor piercing incendiary
ASSY, AY	Assembly
ATM	Air Training Missile
B	Military pyrotechnics
BBU	Explosive item unit
BDU	Bomb Dummy Unit
BSU	Munitions stabilizing and retarding device unit
C	Military Chemicals
CAL	Caliber
CBU	Cluster Bomb Unit
CCG	Computer-control Group
CCU	Actuator cartridge
CH	Channel
Class	Classification
CNTR	Container
CNU	Shipping and storage container
C/O	Consist(s) of
CO.	Company
COMP	Composition
CS	Tear gas
CS 1	Tear gas (super)
CTG	Cartridge
D	Underwater Sound Signals, Sonobuoys, and Components
DBL	Double
DEA	Drug Enforcement Agency
DEMO	Demolition
DICASS	Direction command active sonobuoy system
DODIC	Department of Defense Identification Code
DWG	Drawing
E	Demolition Explosives and Materials
EA	Each
ERDL	Extended Range Data Link
F/	For
FCD	Flexible Confined Detonating Cord

NOMENCLATURE (CONT.)

FLU	Flotation unit
FMLY	Formerly
FMU	Fuze Munition Unit
FRAG	Fragmentation
FT	Feet
FWD	Forward
FZ	Fuze
G	Underwater Mines and Components
GA	Gauge
GAU	Gun Aircraft Unit
GP	General purpose
GR	Grain
GW	Guided Weapon
H	Cartridges and Cartridge-actuated Devices
HARM	High-speed anti radiation missile
HC	High-capacity
HE	High-explosive
HEI	High-explosive, incendiary
HERO	Hazards of Electromagnetic Radiation to Ordnance
HR	Hour
ILLUM	Illuminating
IN	Inch
INC	Incendiary
J	Aircraft Rockets and Components
JAU	Initiator, cartridge actuated
L	Marine Corps Ammunition
LAU	Aircraft installed launcher
LB	Pound
LDD	Loaded
MAU	Miscellaneous Armament Unit
MBEU	Multiple Bomb Ejection Unit
MDP	Miniature Double Plug
MG	Machine Gun
MIN	Minute
MK	Mark
MM	Millimeter
MOD	Model/Modification
MSL	Missile
MTL, METL	Metal
MTR	Motor
MXU	Miscellaneous units
NALC	Navy Ammunition Logistic Code

NOMENCLATURE (CONT.)

NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NO	Number
NON ELECT	Non electric
O	Miscellaneous Ammunition Components and Containers
OA	Operational assembly
OP	Ordnance Publication
P	Small Arms and Landing-force Ammunition
PD, PDF	Point-detonating Fuze
PGU	Programmer unit
P/N	Part Number
Q	Gun Ammunition, 20 mm to 4 inch
RD	Round
REF	Reference
REQ.	Requirement
RF	Radio Frequency
RKT	Rocket
RR	Radar reflector
SEC	Second
SMDC	Shielded, mild-detonating cord
SMK	Smoke
STL	Steel
SUS	Signal, Underwater Sound
SUSP	Suspension
SUU	Suspension and release unit
SWU	Switch unit
T	Surface launched Guided Missiles and Components
T, TR	Tracer
TACT	Tactical
TNT	Trinitrotoluene
TP	Target Practice
TRNR	Trainer
V	Air launched Guided Missiles and Components
VT	Variable-time fuze
W/	With
WAFFAR	Wrap-around, folding-fin aircraft rocket
W/O	Without
WP	White Phosphorus
WTU	Warhead Training Unit
WX PROOF	Weatherproof
Y	Decoys and Countermeasures

NALC	CLASS	NOMENCLATURE	HERO STATUS
AA11	P	CARTRIDGE, 7.62 MM NSN 1305-01-419-8202	NO HERO REQ.
AA12	L	CARTRIDGE, 9 MM, FX MARKING, RED NSN 1305-01-424-2410 P/N 5300432 NSN 1305-01-439-9717 P/N 5300432 (0T AND 2T COG)	NO HERO REQ.
AA21	L	CARTRIDGE, 9 MM, FX MARKING, BLUE NSN 1305-01-449-4254 P/N 5300432	NO HERO REQ.
AA29	L	CARTRIDGE, 12 GAUGE, BEAN BAG, NON-LETHAL NSN 1305-01-454-0191 P/N HS/4083/C97/1127	NO HERO REQ.
AA30	L	CARTRIDGE, 12 GAUGE LAUNCHER, F/GRENADE NON-LETHAL NSN 1305-01-454-0187 P/N HS/4083/C97/1136 NSN 1305-01-464-8389 P/N 100617	NO HERO REQ.
AA31	L	CARTRIDGE, 12 GAUGE RUBBER FIN, NON-LETHAL NSN 1305-01-454-0189 P/N HS/4083/C97/1135	NO HERO REQ.
AA33	L	CARTRIDGE, 5.56MM BALL, M855 NSN 1305-01-457-4589	NO HERO REQ.
AA40	L	CARTRIDGE, 5.56 MM, JACKETED FRANGIBLE ROUND NSN 1305-01-463-8232 P/N P02147	NO HERO REQ.
AX10	L	DUMMY CARTRIDGE {SMAW}, 9 MM, SPOTTING RIFLE, INTERIM MK 218 NSN 1305-01-158-4202 P/N 82A5027A5252	NO HERO REQ.
AX11	L	CARTRIDGE, {SMAW}, SPOTTING RIFLE, 9 MM, MK 217 MOD 0	NO HERO REQ.
AX14	L	PRIMER, PERCUSSION, 12 GAUGE, SHOTGUN, BATTERY CUP TYPE W209 NSN 1390-01-466-9197 P/N NONE LISTED	NO HERO REQ.
A011	L	CARTRIDGE, 12 GA SHOTGUN, NO. 00 BUCKSHOT NSN 1305-00-028-6642 P/N 7553929 AMMO CLASS X NSN 1305-01-386-2464 P/N 5355700 NSN 1305-01-232-8338 P/N 12551623	NO HERO REQ.
A014	P	CARTRIDGE, 12 GA SHOTGUN, NO.7 1/2 SHOT NSN 1305-01-232-0819 P/N 12551625	NO HERO REQ.
A017	L	CARTRIDGE, 12 GA SHOTGUN, NO.9 SHOT NSN 1305-01-232-7415 P/N 12551626	NO HERO REQ.
A023	L	CARTRIDGE, 12 GAUGE SHOTGUN, 1 OZ SLUG LOADED, W/PLASTIC CASE NSN 1305-01-282-1256 P/N X12RS15 (2T COG CLASS X) NSN 1305-01-386-5604 P/N 6552019	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
A024	L	CARTRIDGE, MK 246 MOD 0, 12 GAUGE SHOTGUN LOCKBUSTER, MOD LBC .05 LBS POWDERED METAL FILLER, IN MTL BOX NSN 1305-01-431-5624 P/N 7232080 NSN 1305-01-282-1257 P/N LB-C	NO HERO REQ.
A059	L	CARTRIDGE 5.56 MM, BALL, M855, CLIPPED, {ALL M855 CARTRIDGES IDENTIFIED BY GREEN BULLET TIP} NSN 1305-01-155-5459 P/N 9354626 OR 9342868 OR 9342867 NSN 1305-01-155-5462 P/N 9357724	NO HERO REQ.
A060	L	DUMMY CARTRIDGE, 5.56 MM, M199, SINGLE RD	NO HERO REQ.
A062	L	CARTRIDGE, 5.56 MM LINKED F/SAWS	NO HERO REQ.
A063	L	CARTRIDGE 5.56 MM, TRACER, M856, {ALL M856 CARTRIDGES ARE IDENTIFIED BY AN ORANGE TIP} NSN 1305-01-155-5457 P/N 9342865	NO HERO REQ.
A064	L	CARTRIDGE, 5.56 MM, LINKED W/M27 LINKS, 4-BALL M855 TO 1 TRACER M856 NSN 1305-01-131-5246 P/N 9349300 NSN 1305-01-156-7584 P/N 9354587 NSN 1305-01-252-0153 P/N 9342863 OR 9342862 OR 12597656	NO HERO REQ.
A066	P	CARTRIDGE, 5.56 MM, BALL, M193, SINGLE RD NSN 1305-00-064-6549 P/N 10523632 NSN 1305-00-069-0869 P/N 6006941 NSN 1305-00-773-1257 P/N 6006941 NSN 1305-00-926-3970 P/N 10524200	NO HERO REQ.
A071	L	CARTRIDGE, 5.56 MM, BALL, M193, 10 RD CLIP	NO HERO REQ.
A075	L	CARTRIDGE 5.56 MM, BLANK, LINKED, /M27 LINKS	NO HERO REQ.
A080	P	CARTRIDGE, 5.56 MM, BLANK, XM200 OR M200 SERIES, SINGLE ROUND NSN 1305-00-005-8005 P/N 7553296 NSN 1305-00-182-3217 P/N 7553347	NO HERO REQ.
A085	L	CARTRIDGE, CALIBER .22 SHORT, BLANK NSN 1305-00-093-2958 P/N 10542442 OT COG NSN 1305-01-137-1677 P/N DL3139729 0T COG, (2T COG DELETED 8/21/00)	NO HERO REQ.
A086	L	CARTRIDGE, CAL .22, BALL, LONG RIFLE	NO HERO REQ.
A091	P	CARTRIDGE, CAL .22, BALL, LONG RIFLE, MATCH GRADE, RIFLE	NO HERO REQ.
A111	P	CARTRIDGE, 7.62 MM, BLANK M82, NATO, LINKED FOR M60 MG 1305-01-181-1750 P/N 9381581	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
A112	L	CARTRIDGE, 7.62 MM, BLANK, M82, SINGLE RD NSN 1305-00-008-8894 P/N 8597283 DELETED 4/01 NSN 1305-00-882-5677 P/N 8597283 NSN 1305-00-990-5594 P/N 10523082 OR 8597283	NO HERO REQ.
A124	L	CARTRIDGE, 7.62 MM, TRACER, CTN, F/M14 RIFLE, M60 MG	NO HERO REQ.
A130	L	CARTRIDGE, 7.62 MM, BALL M59 OR M80, F/RIFLE M14, 5 RD CLIP	NO HERO REQ.
A131	L	CARTRIDGE, 7.62 MM, BALL M59 OR M80 AND TRACER M62 LINKED W/M13 LINK, 4 TO 1 RATIO, F/M60 AND M73 MG NSN 1305-00-005-8007 P/N 8595543 OR 7553705	NO HERO REQ.
A131	L	CARTRIDGE, 7.62 MM, BALL M59 OR M80 AND TRACER M62 LINKED W/M13 LINK, 4 TO 1 RATIO, F/M60 AND M73 MG NSN 1305-00-005-8007 P/N 8595543 OR 7553705	NO HERO REQ.
A135	L	DUMMY CARTRIDGE, 7.62 MM, M63, SINGLE RD	NO HERO REQ.
A136	L	CARTRIDGE, 7.62 MM, BALL, M118 OR T275E4, NATO MATCH GRADE, SINGLE RD	NO HERO REQ.
A143	P	CARTRIDGE, 7.62 MM, BALL M80 LINKED F/M60 AND M73 MG	NO HERO REQ.
A143	P	CARTRIDGE, 7.62 MM, BALL M80 LINKED F/M60 AND M73 MG	NO HERO REQ.
A146	L	CARTRIDGE, 7.62 MM LINKED, TRACER M62, F/MG M60 AND M73	NO HERO REQ.
A165	P	CARTRIDGE, 7.62 MM BALL M80 AND TRACER M62 W/M13 LINK F/MINI GAU-2B/A MACHINE GUN	NO HERO REQ.
A171	L	CARTRIDGE, 7.62 MM, BALL, MATCH M852	NO HERO REQ.
A246	L	CARTRIDGE, CAL .30, BALL, BOAT TAIL, MATCH GRADE, SINGLE RD	NO HERO REQ.
A260	P	CARTRIDGE, 9 MM, SUBSONIC, JACKETED HOLLOW POINT	NO HERO REQ.
A358	L	CARTRIDGE, 9 MM, PRACTICE M939, W/TRACER, F/AT4	NO HERO REQ.
A363	L	CARTRIDGE, 9 MM BALL, M882 NSN 1305-01-467-5408 P/N 9345211	NO HERO REQ.
A363	L	CARTRIDGE, 9 MM BALL, M882 NSN 1305-01-467-5408 P/N 9345211	NO HERO REQ.
A412	P	CARTRIDGE, CAL .38, SPECIAL, BALL, 110 GRAIN, SEMI-JACKETED FOR NAVAL INVESTIGATIVE SERVICE USE ONLY	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
A413	P	CARTRIDGE, CALIBER 38 SPECIAL PLUS P F/N.I.S USE (158 GRAIN)	NO HERO REQ.
A475	P	CARTRIDGE, CAL .45, BALL, M1911, GRADE 1 NSN 1305-00-555-1225 P/N 6000503	NO HERO REQ.
A482	L	CARTRIDGE, CAL .45, AUTOMATIC, BALL, 185 GRAIN, WADCUTTER, MATCH GRADE NSN 1305-00-540-7862 P/N MIL-C-3030-1	NO HERO REQ.
A483	L	CARTRIDGE, CAL .45, BALL, M1911, MATCH GRADE	NO HERO REQ.
A501	L	DUMMY CARTRIDGE, CAL .45, M1921 NSN 1305-00-028-6639 P/N 6006253 2T COG NSN 1305-00-028-6641 P/N 7691565 0T/2T COG	NO HERO REQ.
A516	L	CARTRIDGE CAL.50, LINKED, SLAP-TX M962, 100 RD.BELT NSN 1305-01-332-8252 P/N 12902945	NO HERO REQ.
A552	P	CARTRIDGE, CAL .50, BALL, GRADE AC, SINGLE RD	NO HERO REQ.
A555	L	CARTRIDGE CAL .50 BALL M33, LINKED W/M9 LINKS	NO HERO REQ.
A557	P	CARTRIDGE, CAL .50, LINKED, BALL AND TRACER NSN 1305-00-540-1056 P/N 7672165 OR 5577960 NSN 1305-01-370-2594 P/N 12960791	NO HERO REQ.
A559	P	CARTRIDGE, CAL .50, LINKED, BLANK, M1	NO HERO REQ.
A560	L	DUMMY CARTRIDGE, CAL .50, SINGLE RD	NO HERO REQ.
A576	P	CARTRIDGE, CAL .50, LINKED, LINK M2, API M8/API-T M20, GRADE AC IN M2A1 METAL BOX NSN 1305-00-003-8803 P/N 7670238 OR 7672003 NSN 1305-00-028-6485 P/N 7672003 OR 7670238	NO HERO REQ.
A576	P	CARTRIDGE, CAL .50, LINKED, LINK M2, API M8/API-T M20, GRADE AC IN M2A1 METAL BOX NSN 1305-00-003-8803 P/N 7670238 OR 7672003 NSN 1305-00-028-6485 P/N 7672003 OR 7670238	NO HERO REQ.
A598	L	CARTRIDGE, CAL .50 BLANK, M1A1, LINKED W/M9 LINKS	NO HERO REQ.
A602	L	CARTRIDGE, CAL.50, LINKED W/CLIP M9, 4 BALL M858/1 TRACER M860, SHORT RANGE ON 100 RD BELT IN M2A1 BOX NSN 1305-01-126-6201 P/N 12576457 OR 9345009	NO HERO REQ.
A603	Q	CARTRIDGE, CAL .50 BALL M858 LNKD	NO HERO REQ.
A606	L	CARTRIDGE, CALIBER .50 MK 211 MOD 0, API, SINGLE ROUNDS FOR SNIPER RIFLE NSN 1305-01-250-8162 P/N 6086059	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
A665	Q	CARTRIDGE 20 MM A/C, LINKED, 4HEI-M56A3, HEI-T M242, W/M14A2 LINK F/GUN M61, M197 NSN 1305-00-182-3250 P/N 7259268	SUSCEPTIBLE
A677	Q	CARTRIDGE, 20 MM A/C, SAPHEI, PGU-28/B NSN 1305-01-213-9658 P/N 1696AS220-2	SUSCEPTIBLE
A762	Q	CARTRIDGE, 20 MM, LINKED 4 PGU-28/B SAPHEI, 1 PGU-30/B TP-T W/M14A2 LINK, F/GUN M197 NSN 1305-01-330-9494 P/N 1696AS220-6	SUSCEPTIBLE
A890	Q	CARTRIDGE, 20 MM A/C, HEI, M56, F/GUN M39, M61, M197 NSN 1305-00-935-9104 P/N 7259023 NSN 1305-01-116-3931 P/N 9344282 NSN 1305-01-117-5316 P/N 7259023 IN MTL BOX NSN 1305-01-118-9928 P/N 9344283 IN MTL BOX	SUSCEPTIBLE
A924	Q	DUMMY CARTRIDGE, 20 MM A/C, M51A3	NO HERO REQ.
A940	P	CARTRIDGE, 25 MM TPDS-T, M910 FOR M242 MACHINE GUN. 1 30 ROUND BELT PER PA125 METAL CONTAINER. NSN 1305-01-286-5185, NSN 0T 1305-01-426-4359	NO HERO REQ.
A967	L	DUMMY CARTRIDGE, 25 MM, M794, LINKED W/M28 LINKS	NO HERO REQ.
A974	Q	CARTRIDGE, 25 MM APDS-T, M791, LINKED NSN 1305-01-356-9838 P/N D12013533 NSN 1305-01-092-0428 P/N 12013720 NSN 1305-01-095-6014 P/N 12033719	NO HERO REQ.
A975	L	CARTRIDGE, 25 MM, HEI-T, M792, LINKED W/M28 LINKS, F/M242 CANNON NSN 1305-01-094-1035 P/N 12013722 NSN 1305-01-094-7016 P/N 1203721	NO HERO REQ.
A976	L	CARTRIDGE, 25 MM, TP-T, M793, LINKED, M28 LINKS, {FOR USE IN M242 M/G} NSN 1305-01-090-0429 P/N 12013724 NSN 1305-01-095-0248 P/N 12013723 NSN 1305-01-212-5066 P/N 12013224	NO HERO REQ.
A982	Q	CARTRIDGE, 25 MM PGU-25/U, HEI F/GUN GAU-12, SINGLE RD NSN 1305-01-270-2318 P/N 1397AS590 NSN 1305-01-250-0100 P/N 1397AS590 80 RDS PER CNU-405/E	NO HERO REQ.
BA07	L	CARTRIDGE, 40 MM, NON-LETHAL FOAM RUBBER BATON NSN 1310-01-453-9168 P/N HS/4083/C97/1128	NO HERO REQ.
BA08	L	CARTRIDGE, 40 MM, NON-LETHAL, RUBBER BALL NSN 1310-01-453-9154 P/N HS/4083/C97/1130	NO HERO REQ.
BA09	L	CARTRIDGE, 40 MM, NON-LETHAL, WOODEN BATON NSN 1310-01-454-0192 P/N HS/4083/C97/1129	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
B472	L	DUMMY CARTRIDGE, 40 MM, M385, W/M169 CARTRIDGE CASE NSN 1310-01-369-4705 P/N 9362531 NSN 1310-01-154-6525 P/N 9275763	NO HERO REQ.
B504	L	CARTRIDGE 40 MM, GREEN STAR PARACHUTE, M661 F/LAUNCHER M79/M203	NO HERO REQ.
B505	L	CARTRIDGE 40 MM, RED STAR PARACHUTE, M662, F/LAUNCHER M79/M203	NO HERO REQ.
B506	L	CARTRIDGE, 40 MM, RED SMOKE GROUND MARKER W/M733 IMPACT FUZE, F/LAUNCHER M79 AND M203	NO HERO REQ.
B508	L	CARTRIDGE, 40 MM, GREEN SMOKE GROUND MARKER W/M733 IMPACT FUZE, F/LAUNCHER M79 AND M203	NO HERO REQ.
B509	L	CARTRIDGE, 40 MM, YELLOW SMOKE GROUND MARKER W/M733 IMPACT FUZE, F/LAUNCHER M79 AND M203	NO HERO REQ.
B519	L	CARTRIDGE, 40 MM, PRACTICE, M781, SINGLE RD, PLASTIC CARTRIDGE CASE, YELLOW DYE FILLER, W/O TRACER, F/M79 AND M203 LAUNCHER NSN 1310-01-211-8073 P/N 9395853	NO HERO REQ.
B535	L	CARTRIDGE, 40 MM, FIXED WHITE STAR PARACHUTE, XM583	NO HERO REQ.
B542	L	CARTRIDGE, 40 MM, M430, HE DP, COMP A5, LINKED W/M16A2 LINKS, F/MK 19 MOD 3 MACHINEGUN, W/B549 PERCUSSION FUZE NSN 1310-01-159-8043 P/N 9370128 OR 9287851	NO HERO REQ.
B546	L	CARTRIDGE, 40 MM, FIXED, HEDP, XM433E1, W/FUZE PIBD XM550E1, F/GRENADE LAUNCHER M79/203 NSN 1305-00-992-0451 P/N 8886371 OR 8882362	NO HERO REQ.
B567	L	CARTRIDGE, 40 MM, W/FZ PDDT, XM581E1, MOD 4, F/GRENADE LAUNCHER M79/M203	NO HERO REQ.
B576	L	CARTRIDGE, 40 MILLIMETER, PRACTICE, M385, LINKED WITH M18A2 LINK NSN 1310-01-159-3184 P/N 9370125 OR 8886326	NO HERO REQ.
B584	L	CARTRIDGE 40 MILLIMETER, TARGET PRACTICE M918, LINKED W/M16A2 LINK	NO HERO REQ.
B627	Q	CARTRIDGE, 60 MM ILLUMINATING, MORTAR	NO HERO REQ.
B630	L	CARTRIDGE, 60 MM, SMOKE, WP, M302 SERIES, W/FZ PD, F/MORTAR M2 AND M19	NO HERO REQ.
B642	L	CARTRIDGE, 60 MM, H.E. COMP B, M720 W/MULTI-OPTION FUZE M734 NSN 1310-01-022-7680 SHIPPED IN METAL PA70 CONTAINER	SUSCEPTIBLE

NALC	CLASS	NOMENCLATURE	HERO STATUS
B643	L	CARTRIDGE, 60 MM, HE, M888 W/FZPD, M935	NO HERO REQ.
B646	L	CARTRIDGE, 60 MM, SMOKE, WP, XM722, W/FZ XM745 PD, PROP CHG, IGN CHG AND FIN ASSY NSN 1310-01-236-1354 P/N 15-12-345	NO HERO REQ.
B647	L	CARTRIDGE, 60 MM, ILLUMINATING, W/FZ MTSQ M776, FIN ASSY, F/MORTAR M224	NO HERO REQ.
B650	L	CARTRIDGE, 40 MM, BLANK SALUTING, 200 GRAM BLACK POWDER CHARGE NSN 0T 1310-01-240-5741 P/N 1863095 NSN 2T 1310-01-240-5741 BRASS OR STEEL CASE P/N 1863095	NO HERO REQ.
CWDC	P	DUMMY CARTRIDGE, 12 GAUGE SHOTGUN, MK 242 MOD 0 NSN 1305-01-380-3255 P/N P0408500	NO HERO REQ.
CWKK	V	GUIDED MISSILE, TRAINING M36E3 NSN 6920-01-466-2076 P/N 13587130	NO HERO REQ.
C226	Q	CARTRIDGE, 81 MM ILLUMINATING	NO HERO REQ.
C276	L	CARTRIDGE, 81 MM, SMOKE, WP, M375 SERIES, W/FZ PD, F/MORTAR M1 AND M29	NO HERO REQ.
C440	L	CARTRIDGE, 105 MM, BLANK, F/HOW, M2 SERIES M4 SERIES AND M49	NO HERO REQ.
C784	L	CARTRIDGE, 120 MM, TP-T, M831 FOR TANK CANNON NSN 1315-01-250-8636 (METAL CONTAINER) NSN 1315-01-292-7754 (METAL CONTAINER) NSN 1315-01-165-6487 (FIBERBOARD CONTAINER)	SUSCEPTIBLE
C785	L	CARTRIDGE, 120 MM, TPCSDS-T, M865 NSN 1315-01-288-5545 (METAL CONTAINER) NSN 1315-01-305-9252 (METAL CONTAINER)	SUSCEPTIBLE
C868	L	CARTRIDGE, 81 MM, HE, COMP B, M821 W/FUZE MULTI-OPTION M734. SHIPPED IN METAL CONTAINER. SAFE FOR TRANSPORTATION AND STORAGE IN METAL CONTAINER	SUSCEPTIBLE
C869	L	CARTRIDGE, 81 MM, HE, COMP B M889, W/FUZE PD M935 NSN 1315-01-357-6159 P/N 9354444	NO HERO REQ.
C870	L	CARTRIDGE, 81 MM, SMOKE, RP, M819, W/FZ MTSQ M772	NO HERO REQ.
C871	L	CARTRIDGE, 81 MM, ILLUMINATING, M853, W/FZ TIME M768	NO HERO REQ.
C875	L	CARTRIDGE, 81 MM, PRACTICE M879, W/FUZE PD M751, WARHEAD INERT MATERIAL FILLING M220 NSN 1315-01-352-0392 P/N 9310340	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
C995	L	LAUNCHER AND CARTRIDGE 84 MM, M136 (AT4) NSN 1315-01-245-4950 P/N 13229861	SAFE
DWBS	E	CHARGE, DIVERSIONARY, MK 141 MOD 0 NSN 1375-01-387-5748 P/N 6570654 OR 6990372	NO HERO REQ.
DWBU	T	TELEMETERING SYSTEM, GUIDED MISSILE, MK 13 MOD 1	UNSAFE
DWCB	Y	COUNTERMEASURES, CHAFF RR-144A/L (TRAINING) NSN 5865-01-444-9698 P/N 1050AS126	NO HERO REQ.
DWCI	Y	DEVICE, DECOY MJU-49/B. NSN 1370-01-449-0577 P/N 3577AS100	NO HERO REQ.
D505	L	PROJECTILE, 155 MM, ILLUMINATING, M485 SERIES, W/O FZ, F/HOWITZER M1, M1A1, M45 AND CANNON M126 NSN 1320-00-935-2091 P/N 9214150	NO HERO REQ.
D528	L	PROJECTILE, 155 MM, WP, SMOKE, SCREENING, M825	NO HERO REQ.
D533	L	CHARGE, PROPELLING, 155 MM, WHITE BAG, M119A1,ZONE 8 OR M119A2 ZONE 7(RED BAG) WITHOUT PRIMERS F/HOWITZER M109	NO HERO REQ.
D540	L	CHARGE, PROPELLING, 155 MM, GREEN BAG, HOWITZER, M1, M1A1, M45 AND M126 NSN 1320-00-028-4873 P/N 71-9-177 NSN 1320-00-028-4874 P/N 71-9-177 NSN 1320-00-028-4875 P/N 71-9-177 NSN 1320-00-028-4876 P/N 8864405 NSN 1320-00-935-1922 P/N 8887277 NSN 1320-00-008-7790 P/N 8887277 DELETED 4/01 NSN 1320-00-965-0556 P/N 8887277	NO HERO REQ.
D541	L	CHARGE, PROPELLING, 155 MM, WHITE BAG, HOWITZER, M1, M1A1, M45 AND M126 NSN 1320-00-935-1923 P/N 9207624	NO HERO REQ.
D544	L	PROJECTILE, 155 MM, HE, W/O FZ, F /HOWITZER NSN 1320-01-257-4222 P/N 9216352	NO HERO REQ.
D550	L	PROJECTILE, 155 MM, SMOKE, WP, F/HOWITZER	NO HERO REQ.
D563	L	PROJECTILE, 155 MM, HE, DP, ICM, M483A1, W/GRENADES, W/O FZ M577	NO HERO REQ.
EA16	A	CONTROL GROUP, WCU-10 FOR AGM-123 SKIPPER. ALSO USED IN PLACE OF MAU-169A/B FOR LASER GUIDED BOMBS NSN 1325-01-412-2134 P/N 2911253-2	SUSCEPTIBLE
EA56	A	BOMB, CLUSTER, CBU-99B/B, ROCKEYE, TACTICAL, THERMALLY PROTECTED, COMPLETE W/FMU-140A/B FUZE, W/247 MK 118 MOD 0 ANTITANK BOMBLETS, DISPENSER SUU-75/B, AWC 422 INCORPORATED NSN 1325-01-439-6980 P/N 1291AS322-1 NSN 1325-01-439-5677 P/N 1291AS323-1	SAFE

NALC	CLASS	NOMENCLATURE	HERO STATUS
EA68	A	AIRFOIL GROUP, GUIDED BOMB, MXU-667A/B NSN 1325-01-442-9857 P/N 1393AS173	NO HERO REQ.
EB05	A	FUZE, FMU-139B/B WITH TRANSIENT VOLTAGE SUPPRESSORS NSN 1325-01-465-1492 P/N 1379AS901	SAFE
EWAA	Y	DEVICE DECOY, MJU-27A/B. NSN 1370-01-419-6385 P/N 3513AS100	NO HERO REQ.
E509	A	BOMB, GP, MK 83 MOD 4, 1000 LB, W/CABLE ASSY M73 OR T15, SUSP LUG NSN 1325-00-464-7369 P/N 982537	NO HERO REQ.
FW25	A	CLIP, SAFETY, ARMING WIRE, FAHNESTOCK	NO HERO REQ.
FW90	A	PLUG, SOLID, NOSE FUZE MXU-735/B STEEL F/MK 81, 82, 83, 84 BOMBS	NO HERO REQ.
FW94	A	AIRFOIL GROUP MXU-651/B, USED W/CCG MAU-169A/B, F/GBU-10/B LASER GUIDED BOMB	NO HERO REQ.
FW95	A	AIRFOIL GROUP MXU-667/B, USED W/CCG MAU-169A/B, F/GBU-16/B LASER GUIDED BOMB	NO HERO REQ.
F278	A	BOMB, GP, MK 84 MOD 6, 2000 LB, H-6 LOADED, W/CABLE ASSY M74 OR T15 AND SUSP LUGS INSTALLED, THERMALLY PROTECTED	NO HERO REQ.
F289	A	BOMB, GENERAL PURPOSE, BLU-111A/B 500 LB SIZE PBXN-109 LOADED, THERMALLY PROTECTED, LOW DRAG NSN 1325-01-300-3577 P/N 923AS331	NO HERO REQ.
F372	A	ADAPTER-BOOSTER, BOMB, T45E4, M148/T45E7 AND T45E8, NOSE	NO HERO REQ.
F392	A	ADAPTER-BOOSTER, BOMB, M148E1, NOSE, THERMALLY PROTECTED NSN 1325-00-491-6562 P/N 9272263	NO HERO REQ.
F415	A	ARMING WIRE ASSY, MK 9 MOD 0, SINGLE	NO HERO REQ.
F649	A	FIN ASSEMBLY, BOMB, MODIFIED, F/2000 LB LOW DRAG BOMB, MK 84 MOD 1, W/DBL SUSP LUGS MK 3 MOD 0	NO HERO REQ.
F681	A	FUZE, BOMB, M904E2, W/M9 DELAY ELEMENT, NON-DELAY	NO HERO REQ.
F739	A	FUZE, BOMB, M904E4, W/M9 DELAY ELEMENT, NON-DELAY, THERMALLY PROTECTED	NO HERO REQ.
F768	A	FIN ASSEMBLY, BOMB, MK 15 MOD 6, F/500 LB GP BOMB, MK 82 LOW DRAG, W/O SUSPENSION LUGS	NO HERO REQ.
F782	A	FIN ASSEMBLY, BOMB BSU-33B/B	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
GG04	L	GRENADE, HAND, RUBBER BALL, NON-LETHAL NSN 1330-01-454-0132 HS/4083/C97/1138	NO HERO REQ.
GG05	L	GRENADE, HAND, PRACTICE, NON-LETHAL (INERT) NSN 1330-01-454-0099 P/N HS/4083/C97/1137	NO HERO REQ.
GW03	A	SWITCH, ARMING, SAFETY, MK 122 MOD 0, F/FUZE FMU-139, 152, MK 376, DSU-33, MK 43 TDD NSN 1325-01-471-1801 P/N 3639AS100	NO HERO REQ.
GW86	V	FIN ASSEMBLY, GUIDED MISSILE, BSU-32/B, F/AIM 9M AND TRAINERS, P/N 639AS751	NO HERO REQ.
GW90	G	SWIVEL, DOUBLE RING, F/MINES MK 25, 36, 52, 55, 56	NO HERO REQ.
G811	L	BODY, PRACTICE HAND GRENADE F/M69	NO HERO REQ.
G826	L	GRENADE, LAUNCHER, SMOKE, IR SCREENING, M76 PKG 4 PER M2A1 METAL CONTAINER NSN 1330-01-171-8869 P/N E13-19-150 OR B13-19-216	SUSCEPTIBLE
G874	L	FUZE, HAND GRENADE, BURNING TYPE, M201 SERIES	NO HERO REQ.
G878	L	FUZE DELAY, M228, FOR M69 PRACTICE HAND GRENADE	NO HERO REQ.
G881	P	GRENADE, HAND, FRAG, M67	NO HERO REQ.
G895	L	GRENADE, HAND, ILLUMINATING	NO HERO REQ.
G900	L	GRENADE, HAND, INCENDIARY, AN-M14 SERIES NSN 1330-00-219-8557 P/N 13-7-3 OR 13-17-3	NO HERO REQ.
G900	L	GRENADE, HAND, INCENDIARY, AN-M14 SERIES NSN 1330-00-219-8557 P/N 13-7-3 OR 13-17-3	NO HERO REQ.
G924	L	GRENADE, HAND, RIOT, CS1, M25A2	NO HERO REQ.
G930	P	GRENADE, HAND, SMOKE, WHITE, HC, AN-M8 SERIES NSN 1330-00-171-3112 P/N 13-19-32 NSN 1330-00-219-8511 P/N 13-19-32 NSN 1330-00-540-7622 P/N 13-19-32	NO HERO REQ.
G930	P	GRENADE, HAND, SMOKE, WHITE, HC, AN-M8 SERIES NSN 1330-00-171-3112 P/N 13-19-32 NSN 1330-00-219-8511 P/N 13-19-32 NSN 1330-00-540-7622 P/N 13-19-32	NO HERO REQ.
G940	L	GRENADE, HAND, SMOKE, GREEN, M18 SERIES NSN 1330-00-289-6851 P/N 13-19-37 NSN 1330-00-540-9147 P/N D13-19-37	NO HERO REQ.
G940	L	GRENADE, HAND, SMOKE, GREEN, M18 SERIES NSN 1330-00-289-6851 P/N 13-19-37 NSN 1330-00-540-9147 P/N D13-19-37	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
G945	L	GRENADE, HAND, SMOKE, YELLOW, M18 SERIES NSN 1330-00-289-6854 P/N 13-19-37 NSN 1330-00-540-9145 P/N D13-19-37	NO HERO REQ.
G945	L	GRENADE, HAND, SMOKE, YELLOW, M18 SERIES NSN 1330-00-289-6854 P/N 13-19-37 NSN 1330-00-540-9145 P/N D13-19-37	NO HERO REQ.
G950	L	GRENADE, HAND, SMOKE, RED, M18 SERIES	NO HERO REQ.
G950	L	GRENADE, HAND, SMOKE, RED, M18 SERIES	NO HERO REQ.
G955	L	GRENADE, HAND, SMOKE, VIOLET, M18 SERIES NSN 1330-00-289-6853 P/N 13-19-37 NSN 1330-00-540-7185 P/N D13-19-37	NO HERO REQ.
G955	L	GRENADE, HAND, SMOKE, VIOLET, M18 SERIES NSN 1330-00-289-6853 P/N 13-19-37 NSN 1330-00-540-7185 P/N D13-19-37	NO HERO REQ.
G963	L	GRENADE, HAND, RIOT, CAPSULED CS, ABC-M7A2 OR PELLET CS, M7A3	NO HERO REQ.
G982	L	GRENADE, HAND, PRACTICE, SMOKE, BURNING TIME 55 SEC NSN 1330-01-380-0287 P/N 13-19-700 AND 13-19-707	NO HERO REQ.
HA03	J	ROCKET MOTOR, MK 66 MOD 2, 2.75-INCH W/SRA SUPPORT W/PROPELLANT GRAIN MK 90 MOD 0 AND MK 125 MOD 5 IGNITER NSN 1340-01-416-1878 233AS500-1 IN METAL CONTAINER NSN 1340-01-416-1887 233AS500-1 IN METAL CONTAINER	SUSCEPTIBLE
HA06	J	WARHEAD, IR, M278 FOR 2.75-INCH ROCKET, SHIPPED 4 PER PA69 METAL CONTAINER	NO HERO REQ.
HA07	J	ROCKET MOTOR, 2.75-INCH, MK 66 MOD 4, W/IGNITER MK 311 MOD 0, 4 PER MK 706 MOD 0 METAL CONTAINER NSN 1340-01-424-5819 P/N 233AS900	SAFE
HW02	J	BARRIER ASSY, THERMAL ELECTROMAGNETIC SHIELD F/LAU-68D/A LAUNCHER	NO HERO REQ.
HW42	J	ADAPTER-BOOSTER, ROCKET, BBU-15/B, F/ADAPTING FUZE MK 352 MOD 2 TO ZUNI WARHEADS MK 24 AND MK 32	NO HERO REQ.
HW49	J	SHIELD, THERMAL, F/LAU 10D/A LAUNCHER	NO HERO REQ.
HX05	L	ROCKET ASSAULT (SMAW) ENCASED, 83 MM, DUAL MODE, MK 3 MOD 0 WITH RKT MK 1 MOD 0 C/O RKT MTR MK 115 MOD 0, IGNITER MK 303 MOD 0, WHD MK 121 MOD 0, FUZE MK 420 MOD 0. PKG 1 RKT AND 6 RDS 9MM IN MAGAZINE IN FIBERGLASS TUBE, 3 TUBES PER BARRIER BAG NSN 1340-01-158-0577 P/N 82A5027A2000	SAFE

NALC	CLASS	NOMENCLATURE	HERO STATUS
HX06	L	ROCKET, ASSAULT, ENCASED, 83 MM, HEAA (SMAW) MK 6 MOD 0, PKGD 1 RKT AND 6 RDS 9MM IN MAGAZINE, 3 RKTS AND 18 RDS IN STYROFOAM CNTR OVERPACKED IN BARRIER BAG, 2 CNTRS PER BOX NSN 1340-01-227-8870 P/N 82A5027A2730	SAFE
HX07	L	ROCKET, ASSAULT, ENCASED, HEAA, PRACTICE (SMAW) MK 7 MOD 0	SAFE
HY71	J	WARHEAD, 2.75-INCH ROCKET, WDU-4A/A, FLECHETTE NSN 1340-00-124-4193 P/N 67D9700	NO HERO REQ.
H121	J	LAUNCHER, LAU-61C/A, 2.75 IN. ROCKET, THERMALLY PROTECTED	NO HERO REQ.
H122	J	LAUNCHER, LAU-68D/A, 2.75 IN.ROCKET, THERMALLY PROTECTED	NO HERO REQ.
H142	J	LAUNCHER, LAU-10D/A, EMPTY, THERMALLY PROTECTED	NO HERO REQ.
H567	J	ROCKET MOTOR CLUSTER, 5.00 IN. 4 MTRS MK 71 MOD 1/LAU-10D/A THERMALLY PROTECTED NSN 1340-00-361-2351 P/N 4902323	SUSCEPTIBLE
H663	J	WARHEAD, 2.75 INCH ROCKET, WTU-1/B, PRACTICE, INERT LOADED NSN 1340-00-111-3432 P/N 2618015	NO HERO REQ.
H812	J	WARHEAD, 2.75 INCH ROCKET, M257, ILLUMINATING, 12-SHEAR PIN	NO HERO REQ.
H813	J	WARHEAD, 2.75 INCH ROCKET, ILLUMINATING, 6 SHEAR PIN NSN 1340-01-330-6687 P/N 323AS100	NO HERO REQ.
H842	J	WARHEAD, 2.75 INCH ROCKET, M151, HE, W/FUZE M427E1	NO HERO REQ.
H890	J	WARHEAD, 2.75 INCH ROCKET, MK 67 MOD 1, SMOKE, RP, W/O FUZE	NO HERO REQ.
H892	J	WARHEAD, 2.75 INCH ROCKET, MK 67 MOD 1, SMOKE, RP, W/MK 352 PD FUZE	NO HERO REQ.
H893	J	WARHEAD, 2.75 INCH ROCKET, MK 67 MOD 1, SMOKE, RP, W/M427 PD FUZE	NO HERO REQ.
H930	J	WARHEAD, 5.00 INCH ROCKET, MK 24 MODS, HE NSN 1340-00-816-0514 P/N 656560 NSN 1340-00-789-5540 P/N 656560	NO HERO REQ.
H943	J	WARHEAD, 5.00 INCH ROCKET, MK 34 MOD 2, SMOKE, RP, W/O FUZE	NO HERO REQ.
JW83	V	SHIELD, RADIO FREQ. MXU-710/A, F/TOW MISSILE NSN 1420-01-094-8811 P/N SP257226	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
J143	L	ROCKET MOTOR, 5 IN, MK 22 MOD 2 F/DEMOLITION LINEAR CHARGE M58A1, M68A1 MODIFIED. ALSO MK 22 MOD 3 AND MK 22 MOD 4	UNSAFE
J147	J	ROCKET MOTOR, MK 66 MOD 2, 2.75 INCH NSN 1340-01-154-1679 WOOD BOX NSN 1340-01-154-1680 METAL CONTAINER NSN 1340-01-245-3945 METAL CONTAINER	SUSCEPTIBLE
J271	J	ROCKET MOTOR, 5.00 INCH, MK 71 MOD 1, WAFFAR, W/PROPELLANT GRAIN MK 88 MOD 0, W/IGNITER MK 282 MOD 0 NSN 1340-00-007-9750 P/N 318AS200	SUSCEPTIBLE
J280	J	PLUG, OGIVE, NOSE, STEEL, F/WARHEAD MK 24	NO HERO REQ.
J329	J	FUZE, ROCKET, M414A1/MK 93 MOD 0, VT	SAFE
J345	J	FUZE, ROCKET, MK 188 MOD 0, NOSE, PD NSN 1340-00-811-5985 P/N LD175380 OR LD175379	NO HERO REQ.
K002	L	ACTIVATOR, ANTI-TANK MINE, PRACTICE, M1	NO HERO REQ.
K051	P	FUZE, MINE, ANTI-TANK, PRACTICE, M604	NO HERO REQ.
K092	L	MINE, ANTI-PERS, M16 SERIES, BOUNDING	NO HERO REQ.
K139	L	MINE KIT, APERS, PRACTICE, M68, W/ACCESSORIES (INERT MINE AND INERT BLASTING CAP)	NO HERO REQ.
K143	L	MINE, ANTI-PERS, M18A1, NONBOUNDING, NONMETALIC NSN 1345-00-710-6946 P/N 8837104 NSN 1345-00-166-6378 P/N 8835166	UNSAFE
K180	L	MINE, ANTI-TANK, HEAVY, HE, METALLIC, M15 NSN 1345-01-476-3055 P/N 82-0-189	NO HERO REQ.
K181	L	MINE, ANTI-TANK, HEAVY, HE, METALLIC, W/FZ, M607, M21 SERIES	NO HERO REQ.
K231	L	MINE, ANTI-TANK, PRACTICE, HEAVY, EMPTY, METALLIC, M20	NO HERO REQ.
K250	L	MINE, ANTI-TANK, HEAVY, HE, NONMETALLIC, M19 W/FZ M606	NO HERO REQ.
K301	A	DISPENSER AND MINE, AIRCRAFT, CBU-78A/B (GATOR)	SAFE
K301	A	DISPENSER AND MINE, AIRCRAFT, CBU-78A/B (GATOR)	SAFE
K765	L	RIOT CONTROL AGENT, CS, CAPSULE 1365-01-464-9318	NO HERO REQ.
K867	L	SMOKE POT, FLOATING, HC, M4A2	NO HERO REQ.
K886	L	FUZE, SMOKE POT, ELECTRICAL, M209, F/USE WITH K869	UNSAFE

NALC	CLASS	NOMENCLATURE	HERO STATUS
LA01	Y	FLARE, DECOY, MJU-32/B NSN 1370-01-413-7877 P/N 3306AS100	NO HERO REQ.
LA10	B	SIMULATOR, FLARE SM-875A/ALE NSN 1370-01-447-2580 P/N 3535AS100	NO HERO REQ.
LW05	A	ARMING ADAPTER, FOR USE ON MK 80 SRS G.P.BOMBS IN AV-8A/C OR F/A-18 A/C, PKG 100/M19A1 AMMO BOX	NO HERO REQ.
LW25	B	PIN, SHEAR F/SUU-25F/A PARACHUTE FLARE DISPENSER, 1.25 IN LG.	NO HERO REQ.
LW62	Y	FLARE, DECOY MJU-8/B F/AN-ALE/29A DISPENSER	NO HERO REQ.
LX11	L	LAUNCHER KIT, SIGNAL, POCKET	NO HERO REQ.
LX21	L	SIMULATOR, {SMAW} NOISE CARTRIDGE, ASSAULT ROCKET TRAINER, MK 213 MOD 0	NO HERO REQ.
LY15	B	FLARE KIT, DISPENSER FOR FLARE DISPENSER SUU-25	NO HERO REQ.
LY15	B	FLARE KIT, DISPENSER FOR FLARE DISPENSER SUU-25	NO HERO REQ.
L111	B	DISPENSER ASSEMBLY, FLARE SUU-25F/A F/EIGHT LUU-2B/B FLARES NSN 1370-01-121-5860 P/N 8020305-10	SAFE
L258	B	SIGNAL, HAND FIRED, MK 80 MOD 0, MK 80 MOD 2 RED STAR NSN 1370-00-930-7746 P/N 615183 (MOD 0) NSN 1370-01-216-3243 P/N 6136000 (MOD 2)	NO HERO REQ.
L273	B	SIGNAL, SMOKE AND ILLUM, MARINE, MK 99 MOD 2, YELLOW NON- MAGNETIC NSN 1370-01-095-2962 P/N ADL5532187 NSN 1370-01-095-2712 P/N ADL5532189 AMMO CLASS X MK 99 MOD 0	NO HERO REQ.
L275	L	SIGNAL, SMOKE AND ILLUMINATION, MARINE, MK 13 MOD 0, DISTRESS, DAY AND NIGHT NSN 1370-00-115-3432 P/N 712793	NO HERO REQ.
L283	B	SIGNAL, SMOKE AND ILLUMINATION, MARINE MK 124 MOD 0, DISTRESS, DAY AND NIGHT NSN 1370-01-030-8330 P/N 3139734 NSN 1370-01-144-3561 P/N 3139734	NO HERO REQ.
L302	L	SIGNAL CARTRIDGE, WHITE FLARE, F/LAUNCHER KIT, SIGNAL, POCKET	NO HERO REQ.
L304	L	SIGNAL CARTRIDGE, GREEN FLARE, F/LAUNCHER KIT, SIGNAL, POCKET	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
L306	L	SIGNAL, ILLUMINATION, GROUND, RED, STAR CLUSTER, M158/T133E2 NSN 1370-00-756-2591 P/N 8797320-1 36 PER BOX NSN 1370-01-343-1966 P/N 8797320-1 24 PER MTL CONT	NO HERO REQ.
L307	L	SIGNAL, ILLUMINATION, GROUND, WHITE, STAR CLUSTER, M159/T137E2 NSN 1370-00-756-2588 P/N 8797320-2 36 PER WOODEN BOX NSN 1370-01-345-3000 P/N 8797320-2 24 PER METAL CONTAINER NSN 1370-01-345-4300 P/N 8797920 24 PER METAL CONTAINER	NO HERO REQ.
L311	L	SIGNAL, ILLUMINATION, GROUND, RED, STAR, PARACHUTE, M126 NSN 1370-00-629-2336 P/N 8797968 36 PER BOX NSN 1370-01-343-1965 P/N 8797968 24 PER MTL CONTAINER	NO HERO REQ.
L312	L	SIGNAL, ILLUMINATION, GROUND, WHITE, STAR, PARACHUTE, M127 NSN 1370-00-753-1859 P/N 8797968 36 PER BOX NSN 1370-01-341-5159 P/N 8797968 24 PER MTL CONTAINER	NO HERO REQ.
L314	L	SIGNAL, ILLUMINATION, GROUND, GREEN, STAR CLUSTER, M125 NSN 1370-00-629-2335 P/N 8797920 36 PER BOX NSN 1370-01-341-6283 P/N 8797920 24 PER MTL CONTAINER	NO HERO REQ.
L323	B	SIGNAL, SMOKE, GROUND, RED, PARACHUTE, M129A1 SERIES NSN 1370-00-301-1132 P/N 8797996	NO HERO REQ.
L324	L	SIGNAL, SMOKE, GROUND, GREEN, PARACHUTE, M128A1 SERIES NSN 1370-00-301-1131 P/N 8797996	NO HERO REQ.
L328	L	SIGNAL CARTRIDGE, RED FLARE, F/LAUNCHER KIT, SIGNAL, POCKET	NO HERO REQ.
L367	L	SIMULATOR, M22, LAUNCHING, ANTITANK, GUIDED MISSILE AND ROCKET NSN 1370-01-085-2601 P/N 11749630	SAFE
L441	B	FLARE, PARACHUTE LUU-2B/B W/DROW/DROGUE TRAY LAU SUU-44/A	NO HERO REQ.
L442	B	FLARE AIRCRAFT PARACHUTE LUU-2B/B W/ARMING KIT	NO HERO REQ.
L495	L	FLARE, SURFACE, TRIP, M49 SERIES	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
L553	B	MARKER, LOCATION MARINE, MK 25 MOD 4 W/VENT FLOODING HOLES W/O ADAPTER KIT	SAFE
L580	B	MARKER, LOCATION, MARINE MK 58 MOD 1, YELLOW FLAME WHITE SMOKE NSN 1370-01-074-0591 P/N 2141498 OR 3139741	SUSCEPTIBLE
L592	L	BLAST SIMULATOR ASSY, F/TOW M70 TRAINING SET NSN 1370-00-198-2566 P/N 8035823	SAFE
L594	L	SIMULATOR, PROJECTILE, GROUND BURST, M115A2	NO HERO REQ.
L596	L	SIMULATOR, FLASH, ARTILLERY, M110. SHIPPED IN WOODEN BOX W/S72 SQUIB NSN 1370-00-028-5112 W/S93 SQUIB NSN 1370-00-935-1969	UNSAFE
L598	L	SIMULATOR, BOOBY TRAP, M117, FLASH NSN 1370-00-007-5562 P/N 78-0-120	NO HERO REQ.
L599	B	SIMULATOR, BOOBY TRAP, M118, ILLUM NSN 1370-00-008-7788 P/N 78-0-122	NO HERO REQ.
L601	L	SIMULATOR, HAND GRENADE, M116A1/M116E2	NO HERO REQ.
L602	L	SIMULATOR, FLASH, ARTILLERY, M21, W/M103 MATCH. SHIPPED IN WOODEN BOX. NSN 1370-01-128-0418	UNSAFE
MD15	H	CORD, DETONATING, FCDC, NAVAIR DWG 857AS500-2, F/AH-1J ACFT	NO HERO REQ.
MD16	H	CORD, DETONATING, FCDC, NAVAIR DWG 857AS500-1, F/AH-1J ACFT	NO HERO REQ.
MD17	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-1, F/AH-1J ACFT	NO HERO REQ.
MD18	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-2, F/AH-1J ACFT	NO HERO REQ.
MD33	H	WINDOW CUTTING ASSY, PILOT'S WINDOW, F/AH-1J HELICOPTER	NO HERO REQ.
MD34	H	WINDOW CUTTING ASSY, GUNNER'S WINDOW, F/AH-1J HELICOPTER	NO HERO REQ.
MD36	H	WINDOW CUTTING ASSY, PILOT'S DOOR, F/AH-1J HELICOPTER	NO HERO REQ.
MD65	H	CARTRIDGE IMPULSE, CCU-45/B IN HERMETICALLY SEALED METAL CONTAINER NSN 1377-01-063-3162 OR 1377-01-063-3166 OR 1377-01-063-3167 P/N 5184830-2	SUSCEPTIBLE

NALC	CLASS	NOMENCLATURE	HERO STATUS
MF29	H	CARTRIDGE, IMPULSE CCU-63/B, 60 PER HERMETICALLY SEALED METAL CONTAINER NSN 1377-01-082-4175 P/N 842AS125	SUSCEPTIBLE
MF60	H	CARTRIDGE, IMPULSE, CCU-41/B	SUSCEPTIBLE
MF60	H	CARTRIDGE, IMPULSE, CCU-41/B	SUSCEPTIBLE
MF97	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-9, F/AH-1T ACFT	NO HERO REQ.
MF99	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-11, F/AH-1T ACFT	NO HERO REQ.
MJ21	H	CARTRIDGE, IMPULSE CCU-92/A FOR TCU-3/A AND JAU-52 NSN 1377-01-211-7211 P/N 1512AS121	SAFE
MJ91	H	INITIATOR, CARTRIDGE ACTUATED, JAU-52/A	NO HERO REQ.
ML03	L	FIRING DEVICE, DEMOLITION, MULTIPURPOSE, M142	NO HERO REQ.
ML04	E	CUTTER, POWDER ACTUATED MK 23 MOD 0, MOD 1 {EXROD}	NO HERO REQ.
ML05	E	CUTTER, POWDER ACTUATED MK 24 MOD 0, MOD 1 {EXROD}	NO HERO REQ.
ML10	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, 30 GR/FT SMALL	NO HERO REQ.
ML11	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, CH-6	NO HERO REQ.
ML12	E	CHARGE, DEMOLITION, SHAPED FLEXIBLE, LINEAR 60 GR/FT SMALL	NO HERO REQ.
ML13	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR 75 GR/FT SMALL	NO HERO REQ.
ML14	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR 125 GR/FT	NO HERO REQ.
ML15	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, 225 GR/FT	NO HERO REQ.
ML16	L	CHARGE DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, CH-6 LOADED {300 GRAINS PER-FT}	NO HERO REQ.
ML17	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, 400 GR/FT	NO HERO REQ.
ML18	E	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINER 500 GR/FT	NO HERO REQ.
ML19	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, CH-6 LOADED {600 GRAINS PER-FT}	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
ML25	L	CHARGE, DEMOLITION, LINEAR, HE, COMP C4, M59, W/FZ ELECT M1134A1 1375-01-117-8612 P/N 5417704 OR 5417717 O/P 1375-01-236-6378 P/N 6120618 1375-01-291-5194 P/N 6120618 1375-01-316-7905 P/N 6120618 1375-01-326-7214 P/N 8845251REVA 1375-01-326-7754 P/N 8845251-1	SUSCEPTIBLE
ML65	L	DETONATOR, PERCUSSION, W/175 MILLISECOND DELAY, ORANGE IN COLOR, W/NON-ELECTRIC TYPE BLASTING CAP	NO HERO REQ.
ML82	L	FUZE, ELECTRIC, M1134A2 {M1134A1E1}, LIVE {HERO SAFE}, F/DODICS M913 {M58A2, M58A3} AND ML25 {M59} NSN 1375-01-179-3670 P/N 9370124 OR 9370065 NSN 1375-01-263-8047 P/N ADL5354112 REV F NSN 1375-01-468-2763 P/N 7095637	SUSCEPTIBLE
MM26	L	CHARGE, DEMOLITION, 20 GRAM PETN PELLET (P-50) EXPLOSIVE TUBE, (NAVY CHARGE)	NO HERO REQ.
MM27	L	CHARGE, DEMOLITION, EXPLOSIVE SHEET (DETA SHEET) 2 GRAMS/SQ IN	NO HERO REQ.
MM28	L	CHARGE, DEMOLITION, EXPLOSIVE SHEET (DETA SHEET), 3 GRAMS /SQ.IN	NO HERO REQ.
MM29	L	CHARGE, DEMOLITION, EXPLOSIVE SHEET (DETA SHEET), 4 GRAMS /SQ IN	NO HERO REQ.
MM30	E	CHARGE, DEMOLITION MK 140 MOD 0, FLEXIBLE, 20 GRAM NSN 1375-01-281-8696 P/N 6545554	NO HERO REQ.
MM31	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 30 GRAINS RDX PER FOOT, EACH CHG 6 FOOT LONG	NO HERO REQ.
MM32	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED 40 GRAINS RDX PER FT. EACH CHG 6 FT LONG	NO HERO REQ.
MM33	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 60 GRAINS RDX PER FT, EACH CHG 6 FT LONG.	NO HERO REQ.
MM34	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 75 GRAINS RDX PER FOOT, EACH CHG 6 FT LONG	NO HERO REQ.
MM35	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 125 GRAINS RDX PER FT, EACH CHG 6 FT LONG	NO HERO REQ.
MM38	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 225 GRAINS CH-6/FT, EACH CHG 6 FT LONG	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
MM39	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 400 GRAINS CH-6 PER FT, EACH CHARGE 6 FOOT LONG	NO HERO REQ.
MM40	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 600 GRAINS RDX PER FT, EACH CHG 6 FT LONG	NO HERO REQ.
MM43	L	CHARGE DEMOLITION, SHAPED, FLEXIBLE, LINEAR, 6 FOOT LONG WITH 60 GRAINS CH-6 PER FOOT	NO HERO REQ.
MM44	L	CHARGE DEMOLITION, SHAPED FLEXIBLE, LINEAR, 6 FT LONG WITH 75 GRAINS CH-6 PER FOOT	NO HERO REQ.
MM45	L	CHARGE DEMOLITION, SHAPED, FLEXIBLE, LINEAR, 6 FOOT LONG WITH 125 GRAINS CH-6 PER FOOT	NO HERO REQ.
MM46	L	CHARGE, DEMOLITION, SHAPED, FLEXIBLE, LINEAR, LEAD SHEATHED, 225 GRAINS CH-6 PER FT, EACH CHARGE 6 FT LONG	NO HERO REQ.
MM51	L	CHARGE, DEMOLITION, LOW HAZARD FLEXIBLE LINEAR SHAPED MK 143 MOD 0, 600 GRAINS/FOOT	NO HERO REQ.
MM52	E	CHARGE, DEMOLITION, LOW HAZARD FLEXIBLE LINEAR SHAPED MK 144 MOD 0, 1200 GRAINS/FOOT	NO HERO REQ.
MM53	E	CHARGE, DEMOLITION, MK 145 MOD 0 LOW HAZARD FLEXIBLE LINEAR SHAPED, 2400 GRAINS/FOOT	NO HERO REQ.
MM54	E	CHARGE, DEMOLITION, MK 149 MOD 0 LOW HAZARD FLEXIBLE LINEAR SHAPED, 5400 GRAINS/FOOT	NO HERO REQ.
MM56	E	DETONATOR, NONELECTRIC, MK 123 MOD 0, DUAL 100-FOOT SHOCK TUBE LEADS	NO HERO REQ.
MN01	L	CANINE EXPLOSIVE SCENT KIT	NO HERO REQ.
MN79	D	ANTI-PERSONNEL OBSTACLE BREECHING SYSTEM (APOBS), MK 7 MOD 1 NSN 1375-01-426-1376 P/N 87012A0000	SUSCEPTIBLE
MS63	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-129, F/AH-1W ACFT	NO HERO REQ.
MS64	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-131, F/AH-1W ACFT	NO HERO REQ.
MS65	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-133, F/AH-1W ACFT	NO HERO REQ.
MS66	H	CORD, DETONATING, SMDC, NAVAIR DWG 857AS400-135, F/AH-1W ACFT	NO HERO REQ.
MS67	H	WINDOW CUTTING ASSY, F/GUNNER'S DOOR ON AH-1W ACFT	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
MT95	H	CARTRIDGE, IMPULSE CCU-107/B F/AIRCRAFT STORES SEPARATION NSN 1377-01-364-7322 P/N 6260802. SHIPPED IN HERMETICALLY SEALED METAL CONTAINER.	SUSCEPTIBLE
MU11	H	CUTTER, PROPELLANT ACTUATED, MLU-58/B, 4 SECOND DELAY	NO HERO REQ.
MU40	L	CORD, DETONATING, PETN, WTRPRF W/POLYETHYLENE OVER-EXTRUSION, COLOR PALE GREEN, 400 GRAIN PETN PER FT	NO HERO REQ.
MU41	L	CORD, DETONATING, PETN, WTRPRF W/POLYETHYLENE OVER-EXTRUSION, COLOR ORANGE, 200 GRAIN PETN PER FT	NO HERO REQ.
MU42	L	CORD, DETONATING, PETN, W/POLYETHYLENE OVER-EXTRUSION, COLOR CLEAR, 100 GRAIN PETN PER FT	NO HERO REQ.
MU43	L	CORD, DETONATING, PETN, WTRPRF W/POLYETHYLENE OVER-EXTRUSION, COLOR CLEAR, 600 GRAIN PETN PER FOOT	NO HERO REQ.
MW80	H	SAFETY/ARMING DEVICE-DETONATOR F/AH-1J/W ACFT NSN 1377-00-328-8080 P/N 814033-4 OR 857AS200-1	NO HERO REQ.
M023	L	CHARGE, DEMOLITION, BLOCK, M112, COMP C-4, 1-1/4 LB NSN 1375-00-724-7040 P/N 9204248 NSN 1375-01-330-0749 P/N 9204248 NSN 1375-01-389-3854 P/N 9204248-1	NO HERO REQ.
M024	L	CHARGE, DEMOLITION M118 PETN 2 LB BLOCK NSN 1375-00-728-5941 P/N 9204247	NO HERO REQ.
M028	L	DEMOLITION KIT, BANGALORE TORPEDO, M1A2	NO HERO REQ.
M030	L	CHARGE, DEMOLITION, BLOCK, TNT, 1/4 LB	NO HERO REQ.
M032	E	CHARGE, DEMOLITION, BLOCK, TNT, 1 LB NSN 1375-00-028-5142 P/N 82-13-24 NSN 1375-00-529-7701 P/N 8885249 NSN 1375-00-935-6139 P/N 8885249	NO HERO REQ.
M035	E	CHARGE, DEMOLITION, BLOCK, CHAIN, M1, 8-2.5 LB, 75-25 TETRYTOL	NO HERO REQ.
M039	L	CHARGE, DEMOLITION, CRATERING, AMMONIA NITRATE, 40 LB	NO HERO REQ.
M040	E	CHARGE, DEMOLITION, MK 2 MOD 2 AND MK 2 MOD 3, 55 LB CAST TNT	NO HERO REQ.
M097	L	CAP, BLASTING, NON-ELECTRIC, INERT NSN 1375-00-784-8043 P/N 8864810	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
M098	L	CAP, BLASTING, ELECTRIC, INERT NSN 1375-00-783-8040 P/N 8865211	NO HERO REQ.
M130	L	CAP, BLASTING, SPECIAL, ELECTRIC, J2/M6. ALL VERSIONS BUT NSN 1375-00-028-5224, 1375-00-028-5225, AND 1375-00-756-1865 ARE SHIPPED IN METAL CONTAINERS. ITEMS IN SEALED METAL CONTAINERS REQUIRE NO RESTRICTIONS DURING TRANSPORTATION AND STORAGE. THE FOLLOWING NSNS ARE SHIPPED IN METAL CONTAINERS: 1375-00-283-9442, 1375-00-889-2003, 1375-01-192-9174, AND 1375-01-316-1229	SUSCEPTIBLE
M131	E	CAP, BLASTING, SPECIAL, NON-ELECT NSN 2T 1375-00-028-5226 P/N 393652 (OBSOLESCENT) NSN 0T 1375-00-028-5226 P/N 393652 NSN 1375-00-028-5227 P/N 393652 NSN 1375-00-028-5228 P/N 393652 (OBSOLESCENT) NSN 1375-00-283-9440 P/N 8830948 NSN 1375-00-370-3519 P/N 8830948 NSN 1375-00-756-1864 P/N 8830948 NSN 1375-01-057-6439 P/N 8830948 NSN 1375-01-193-2976 P/N MIL-C-45469 NSN 1375-01-315-1335 P/N 12929271	NO HERO REQ.
M162	H	CARTRIDGE, IMPULSE F/CH-46A AND -46D HELICOPTER NSN 1377-00-364-4680 P/N 2518426 1 PER CAN NSN 1377-00-999-7463 P/N 2518426 4 PER CAN	SUSCEPTIBLE
M174	L	CARTRIDGE, IMPULSE, ELECT INITIATED, NAVORD DWG. NO. LD416875, .50 CAL FOR EOD USE. SHIPPED IN METAL BOX. NSN 1385-00-512-2886 P/N DL2193702 NSN 1385-00-605-0253 P/N DL2193702-12 NSN 1385-00-896-3694 P/N DL2193702	SUSCEPTIBLE
M190	H	CARTRIDGE, IMPULSE, MK 2 MOD 1 NSN 1377-00-103-3434 P/N 1283661 10 PER PACKAGE NSN 1377-00-293-8184 P/N 1283661 65 PER PACKAGE NSN 1377-00-512-2864 P/N 1283661 52 PER PACKAGE	SUSCEPTIBLE
M193	H	CARTRIDGE, AIRCRAFT FIRE EXTINGUISHER NSN 1377-00-930-9390 P/N 2519614 OR 30903823 OR 13083-5	SUSCEPTIBLE
M232	H	CARTRIDGE, AIRCRAFT FIRE EXTINGUISHER (P/N 873364) NSN 1377-01-419-8796 FOR F-111 NSN 1377-00-824-5858 P/N 2519707 NSN 1377-01-257-1359 P/N 1660AS200 CCU-68/A	SUSCEPTIBLE
M327	L	COUPLING BASE, FIRING DEVICE, W/PRIMER W/ M27 PRIMER NSN 1375-00-038-5280 P/N 1773626 W/ M39A1 PRIMER NSN 1375-00-699-5236 P/N 8837262	NO HERO REQ.
M420	L	CHARGE, DEMOLITION, SHAPED, M2 SERIES, 15 LB NSN 1375-00-028-5237 P/N 8858382 0T/2T COG	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
M421	L	CHARGE, DEMOLITION, SHAPED, M3, 40 LB	NO HERO REQ.
M456	L	CORD, DETONATING, REINFORCED NSN 1375-00-028-5168 P/N MIL-C-17124 NSN 1375-00-180-9356 P/N MIL-C-17124 NSN 1375-00-180-9410 P/N MIL-C-17124 NSN 1375-00-204-0851 P/N MIL-C-17124 NSN 1375-00-310-2677 P/N MIL-C-17124 NSN 1375-01-083-0699 P/N 2114302-5 NSN 1375-01-083-0700 P/N 2114302-6 NSN 1375-01-332-9665 P/N 2114302-7	NO HERO REQ.
M474	L	CONTAINER, DEMOLITION CHARGE MK 1 MOD 0, EMPTY	NO HERO REQ.
M475	L	CONTAINER, DEMOLITION CHARGE MK 2 MODS, EMPTY	NO HERO REQ.
M476	L	CONTAINER, DEMOLITION CHARGE MK 3 MODS, EMPTY	NO HERO REQ.
M477	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 1, EMPTY	NO HERO REQ.
M478	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 2, EMPTY	NO HERO REQ.
M479	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 3, EMPTY	NO HERO REQ.
M480	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 4, EMPTY	NO HERO REQ.
M481	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 5, EMPTY	NO HERO REQ.
M482	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 6, EMPTY	NO HERO REQ.
M483	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 7, EMPTY NSN 1375-01-077-4379 P/N 795510-7	NO HERO REQ.
M484	L	CONTAINER, DEMOLITION CHARGE MK 7 MOD 8, EMPTY	NO HERO REQ.
M485	E	CUTTER, HIGH EXPLOSIVE MK 3 MOD 1 COMP B LDD, W/ACTIVATOR WELL	NO HERO REQ.
M486	E	CUTTER, CABLE MK 1 MOD 1, EMPTY, W/ACTIVATOR WELL	NO HERO REQ.
M487	L	CONTAINER, DEMOLITION CHARGE, MK 8 MOD 1, EMPTY	NO HERO REQ.
M500	L	CUTTER, CARTRIDGE ACTUATED, M21, 2 SEC DELAY	NO HERO REQ.
M514	H	CARTRIDGE, IMPULSE, MK 44 MOD 0 1377-00-987-3603 P/N 2240772 SAFE FOR TRANSPORTATION AND STORAGE IN SEALED METAL CONTAINER	SUSCEPTIBLE
M591	L	DYNAMITE, MILITARY, M1 1375-00-724-9613	NO HERO REQ.
M598	X	CRYPTOGRAPHIC EQUIPMENT DESTROYER, INCENDIARY, M1 SERIES TH1 AND TH4 NSN 1375-00-219-8562 P/N 257211	UNSAFE

NALC	CLASS	NOMENCLATURE	HERO STATUS
M626	E	FIRING DEVICE, DEMOLITION, PRESSURE TYPE, M1/M1A1 NSN 1375-00-007-5564 P/N 73-9-70-1 (M1A1) NSN 1375-00-028-5178 (M1) NSN 1375-00-028-5179 (M1A1)	NO HERO REQ.
M627	L	FIRING DEVICE, DEMOLITION, PRESSURE RELEASE TYPE, M5 NSN 1375-00-007-5563 P/N 73-9-61A NSN 1375-00-028-5190 (PACKED AS REQUIRED) NSN 1375-00-028-5192 (200 PER WOODEN BOX)	NO HERO REQ.
M670	L	FUSE, BLASTING, TIME, EXPLOSIVE LOADED NSN 1375-00-028-5149 P/N MIL-F-45144A NSN 1375-00-028-5151 P/N MIL-F-45144A NSN 1375-00-028-5152 P/N MIL-F-45144A NSN 1375-00-028-5246 P/N MIL-F-45144A NSN 1375-00-167-3856 P/N MIL-F-45144A NSN 1375-00-262-1674 P/N MIL-F-45144A	NO HERO REQ.
M757	L	CHARGE ASSY, DEMOLITION, M183 NSN 0T-1375-00-926-3985 OR NSN 2T-1375-01-398-0060	NO HERO REQ.
M766	X	IGNITER, TIME BLASTING FZ, M2, M60/T2, PULL WIRE TYPE, WEATHERPROOF NSN 1375-00-028-5199 P/N 79-9-62 0T/2T COG NSN 1375-00-028-5200 P/N 79-9-62 2T COG NSN 1375-00-283-9452 P/N 2128181 NSN 1375-00-691-1671 P/N 8822497	NO HERO REQ.
M913	L	CHARGE, DEMOLITION, HE, LINEAR M58A1 MODIFIED, W/FUZE AND HARNESS CONNECTOR NSN 1375-01-133-4189 P/N DL2128451 W/FUZE M1134A1E1 NSN 1375-00-008-8895 P/N 8845322 W/FUZE M1134	SUSCEPTIBLE
M977	E	CORD, DETONATING, LIGHTWEIGHT, PETN FILLER, TYPE 1 CLASS B	NO HERO REQ.
M980	L	CHARGE, DEMOLITION, EXPLOSIVE SHEET, 38 FT ROLL	NO HERO REQ.
M981	L	CHARGE, DEMOLITION EXPLOSIVE, SHEET 25 FT ROLL	NO HERO REQ.
M982	L	CHARGE DEMOLITION, EXPLOSIVE SHEET, 19 FT ROLL NSN 1375-01-444-1562 P/N 2114203 NSN 1375-01-036-0445 P/N 3139754	NO HERO REQ.
NW20	Y	CHAFF, COUNTERMEASURES, RR129A/L, F/ALE 29/29A DISPENSER	NO HERO REQ.
N205	L	DUMMY FUZE, POINT DETONATING, M59	NO HERO REQ.
N209	L	DUMMY FUZE, POINT DETONATING, M73	NO HERO REQ.
N278	L	FUZE, MECH TIME, SQ, M564/T197 SERIES NSN 1390-00-889-2044 P/N 8864492	NO HERO REQ.

NALC	CLASS	NOMENCLATURE	HERO STATUS
N285	R	FUZE, MT AND SUPQK M577 SELECTIVE DELAY 0.0 TO 200.0 SEC W/O BOOSTER	NO HERO REQ.
N286	L	FUZE, MECHANICAL TIME AND SUPERQUICK, M582, /XM582E2	NO HERO REQ.
N290	L	FUZE, ELECTRONIC TIME AND POINT DETONATE, M767 F/155 MM OR 4.2-INCH MORTAR, OR 8-INCH HOWITZER PROJECTILES	SAFE
N291	L	FUZE, PROXIMITY M732A2 F/105 MM, 155 MM, 175 MM, AND 8-INCH GUN PROJECTILES, 8 PER M2A1 METAL BOX NSN 1390-01-309-6452 P/N 11742612	SAFE
N340	Q	FUZE, POINT DET, XM739 .05 SEC SELECTIVE DELAY	NO HERO REQ.
N523	L	PRIMER, PERCUSSION, M82 SERIES	NO HERO REQ.
N543		PRIMER, ELECTRIC, MK 153 MODS 0, 1	SUSCEPTIBLE
N659	R	FUZE, PD MK 399 MOD 1 NSN 1390-01-263-8046 P/N 5918048	NO HERO REQ.
PB97	L	GUIDED MISSILE, SURFACE ATTACK, BGM-71A-3, TOW, (INCLUDES MISSILE ORDNANCE INHIBIT CIRCUIT) NSN 0T 1410-01-181-6032 P/N 13100902	SUSCEPTIBLE
PB99	J	GUIDED MISSILE, TOW BTM-71A-3, SURFACE TO SURFACE, EXTENDED RANGE, PRACTICE, 0T 1410-01-180-6791	SUSCEPTIBLE
PC06	V	GUIDED MISSILE, TACTICAL, SIDEARM I, AGM-122/A, WITH WINGS AND FINS NSN 1410-01-197-8996 P/N 1466AS1000	SAFE
PC91	V	GUIDED MISSILE, HELLFIRE, AGM-114B, W/SAFE ARM DEVICE NSN 1410-01-227-9468 P/N 13007357	SAFE
PD63	V	GUIDED MISSILE, TACTICAL, MAVERICK, AGM-65F (IMAGING INFRARED) NSN 1410-01-253-8073 3647135-100	SAFE
PL23	L	GUIDED MISSILE AND LAUNCHER, SURFACE ATTACK, M222-E1, GENERATION I DRAGON NSN 1427-01-406-4173 P/N 13496755 1 PER WOOD CONTAINER	SUSCEPTIBLE
PL94	L	GUIDED MISSILE SUBSYSTEM (STINGER-RMP) MISSILE ROUND C/O STINGER MISSILE ROUND AND 2 BATTERY-COOLANT UNITS IN A WOODEN CONTAINER, FIM-92C NSN 1427-01-230-8783 P/N 13252011 NSN 1427-01-230-8783	SUSCEPTIBLE

NALC	CLASS	NOMENCLATURE	HERO STATUS
PL95	L	GUIDED MISSILE SUBSYSTEM (STINGER-RMP) WEAPON ROUND (PARTIAL) C/O STINGER MISSILE ROUND AND 3 BATTERY-COOLANT UNITS IN A METAL CONTAINER, FIM-92C NSN 1427-01-230-8784 P/N 13252012	SUSCEPTIBLE
PM80	L	GUIDED MISSILE AND LAUNCHER, HEAT (DRAGON II)MK 1 MOD 0 SURFACE ATTACK, M222 NSN 1427-01-273-1228 P/N 86048A9000 W OR WO BARRIER BAG NSN 1427-01-406-4172 P/N 13496760 1 PER WOODEN CRATE	SUSCEPTIBLE
PN15	L	GRIPSTOCK-CONTROL GROUP GUIDED MISSILE LAUNCHER, F/STINGER NSN 1440-01-024-6931; 1440-01-170-8618	NO HERO REQ.
PN16	L	GRIPSTOCK CONTROL GROUP, GUIDED MISSILE LAUNCHER, F/STINGER MISSILE-RMP FIM-92C, NSN 1440-01-233-1494 P/N 13251828	NO HERO REQ.
PT47	V	WING ASSEMBLY, GUIDED MISSILE, MK 1 MOD 3, F/AGM-122/A	NO HERO REQ.
PU16	V	GUIDED MISSILE, BGM-71E-5B, TOW 2A AIR LAUNCHED 8E 1410-01-379-8260 P/N 13426588	SAFE
PU70	V	GUIDED MISSILE, TRAINING, SIDEWINDER, CATM-9M-12 NSN 1410-01-407-4707 P/N 639AS6160-12	SAFE
PV76	V	GUIDED MISSILE, TACTICAL, SIDEWINDER, AIM-9M-6, W/WINGS AND FINS NSN 1410-01-331-5482 P/N 639AS3922-6	SAFE
SS12	H	CORD ASSEMBLY, DETONATING, FLEXIBLE CONFINED FOR AH-1W AIRCRAFT NSN 1377-01-441-1676 P/N 857AS500-8	NO HERO REQ.
SS17	H	CORD ASSEMBLY, DETONATING, FLEXIBLE FOR AH-1W NSN 1377-01-441-1650 P/N 857AS500-7	NO HERO REQ.
SS36	H	CARTRIDGE, IMPULSE, CCU-136/A, FOR USE IN DISPENSER ALE-47 AND AN/ALE-50 NSN 1377-01-442-5517 P/N 842AS205-1	SUSCEPTIBLE
SS45	H	CORD DETONATING; WINDOW CUTTING ASSY (GUNNERS DOOR) AH-1W NSN 1377-01-448-7159 P/N 814280-27	NO HERO REQ.
SS46	H	CORD, DETONATING; WINDOW CUTTING ASSY (GUNNERS WINDOW)AH-1W NSN 1377-01-448-7169 P/N 814280-29	NO HERO REQ.
VX99	L	SIMULATOR, STINGER LAUNCH {STLS} MISSILE IN MTL CONTAINER NSN 1410-01-173-9355 P/N 13049350	SUSCEPTIBLE

NALC	CLASS	NOMENCLATURE	HERO STATUS
WF10	L	GUIDED MISSILE, BGM-71D-5 W/E-MOIC CIRCUIT) FOR GROUND FIRED APPLICATIONS NSN 1410-01-461-9682 P/N 13589825 NSN 1410-01-469-8929 P/N 13589825	SUSCEPTIBLE
WF22	V	GUIDED MISSILE, HARM, AGM-88C-1, BLOCK V, DSU-19A/B PKGD 2 PER CNU-355/E NSN 1410-01-468-9113 P/N 704AS113-4001 NSN 1410-01-465-4190 P/N 704AS113-4003	SAFE
XW38	A	ARMING WIRE ACCESSORY KIT; C/O 500 SAFETY CLIPS, 500 RING AND SWIVEL ASSY:S, AND 500 FERRULES	NO HERO REQ.
YW26	V	WING ASSEMBLY, MK 1 MOD 2, F/AIM-9H/L/M AND TRAINERS {SET OF 4}	NO HERO REQ.
1W73	A	RETARDER, INFLATABLE, AIR, BSU-85/B, F/MK 83 BOMBS NSN 1325-01-218-8419 P/N 1634AS100	NO HERO REQ.
2W05	J	MOTOR CLUSTER, 2.75 IN ROCKET, 7 MK 66 MOD 2 ROCKET MOTORS IN LAU-68D/A LAUNCHER NSN 1340-01-227-1990 P/N 233AS512	SUSCEPTIBLE
2W11	Y	DEVICE, DECOY MJU-27/B NSN 1370-01-337-5346 P/N 3122AS100	NO HERO REQ.
2W89	Y	FLARE, DECOY MJU-8A/B AND 8B/B NSN 1370-01-239-9544 P/N 1758AS100	NO HERO REQ.
4W80	V	CONTAINER, SHIPPING/STORAGE, CNU-435/E, F/4 SIDEWINDER (AIM-9M/R) AUR W/WINGS AND FINS	NO HERO REQ.
5W98	V	GUIDED MISSILE, TRAINING, HELLFIRE, M36E1 NSN 6920-01-234-0929 P/N 13007355	NO HERO REQ.
6W01	A	ARMING WIRE COMPOSITE, F/MK 83 G.P. BOMBS, C/O MK 9 MOMD 0 ARMING WIRE ASSY, 1 SAFETY CLIP, 1 RING, AND SWIVEL AND 1 FERRULE	NO HERO REQ.

APPENDIX C

DRAWINGS

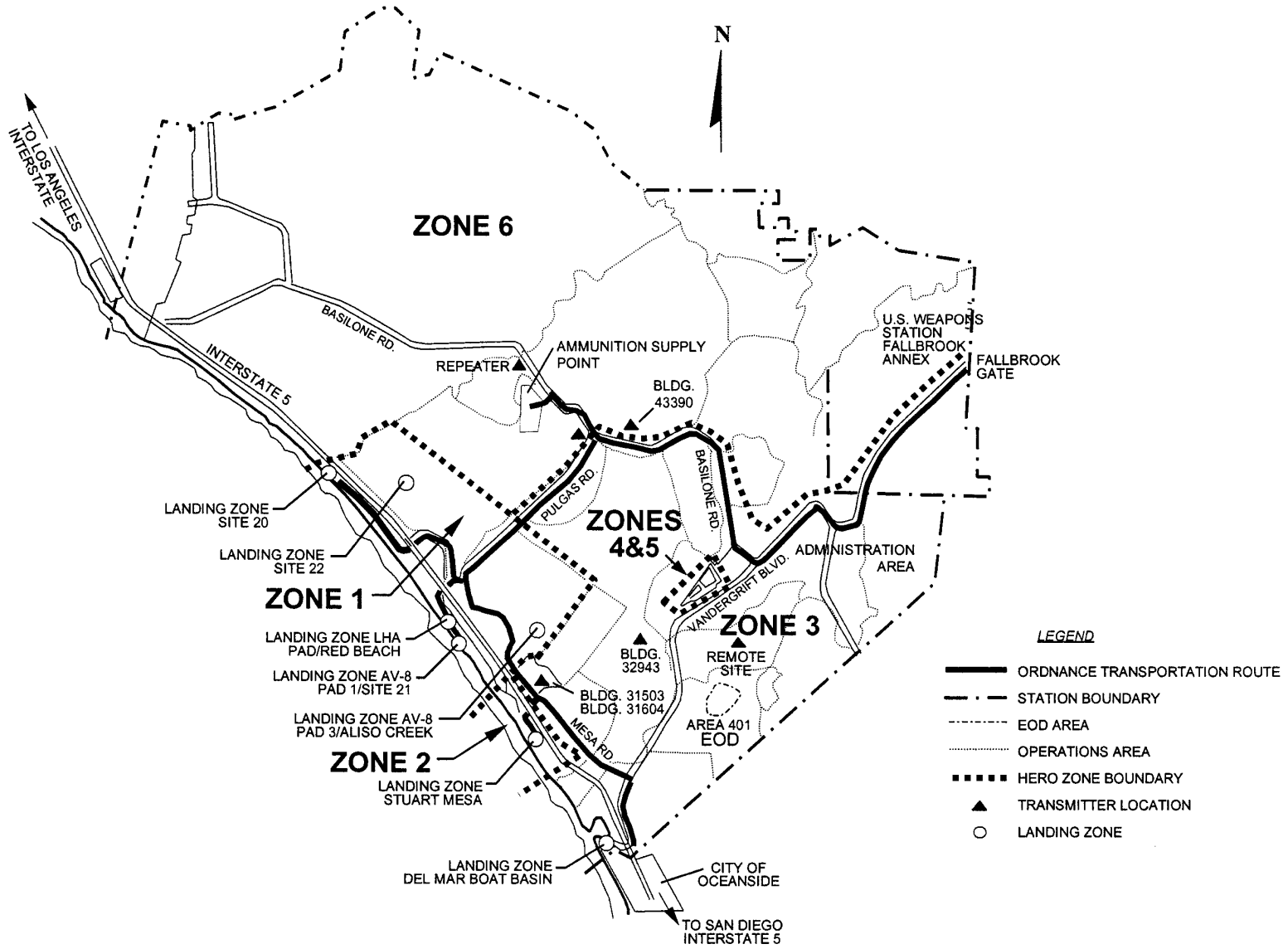


FIGURE C-1. MCAS/MCB CAMP PENDLETON, CALIFORNIA

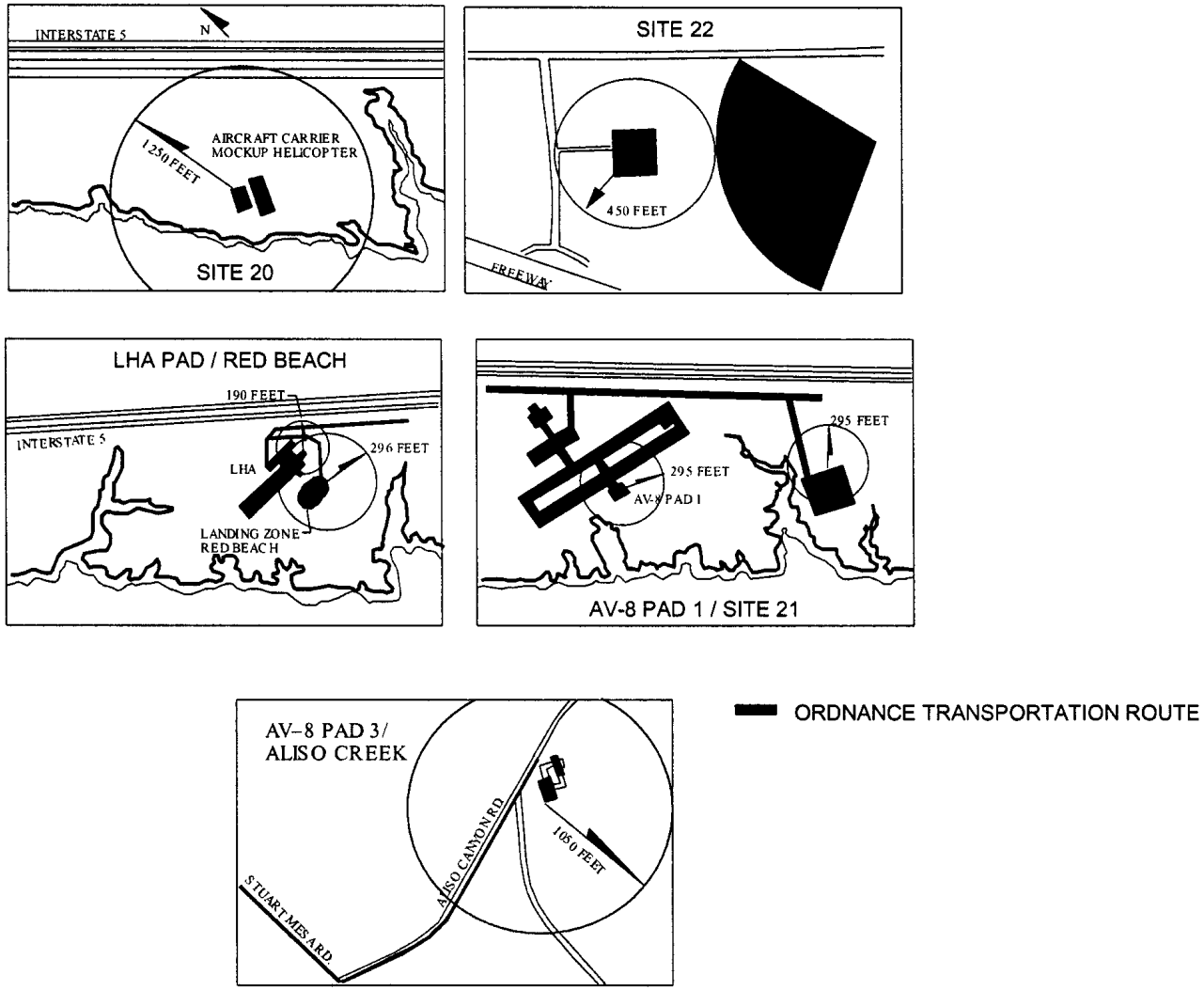


FIGURE C-2. MCB CAMP PENDLETON, HERO ZONE 1, LANDING ZONES

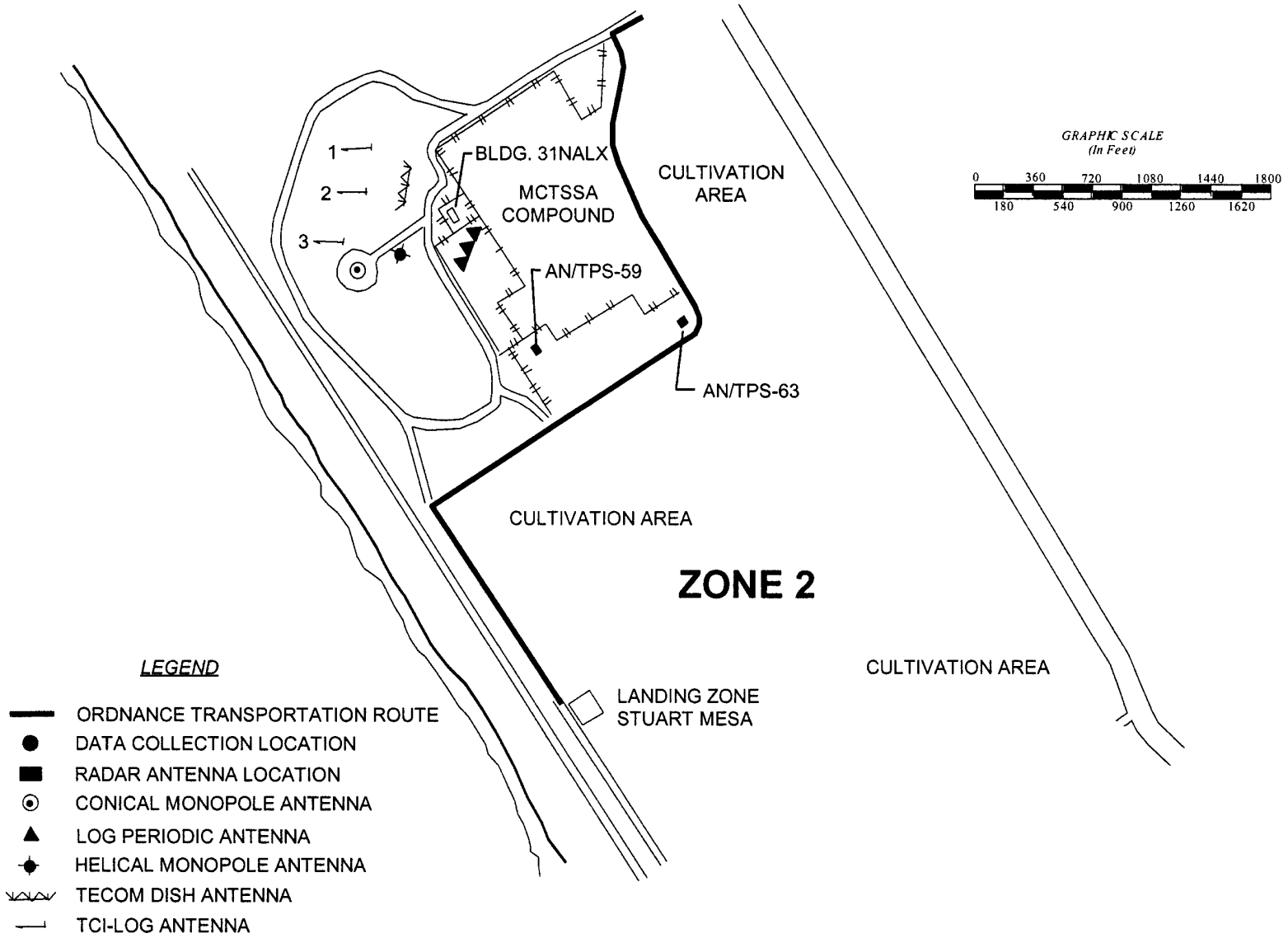


FIGURE C-3. MCB CAMP PENDLETON, LANDING ZONE STUART MESA/MCTSSA COMPOUND

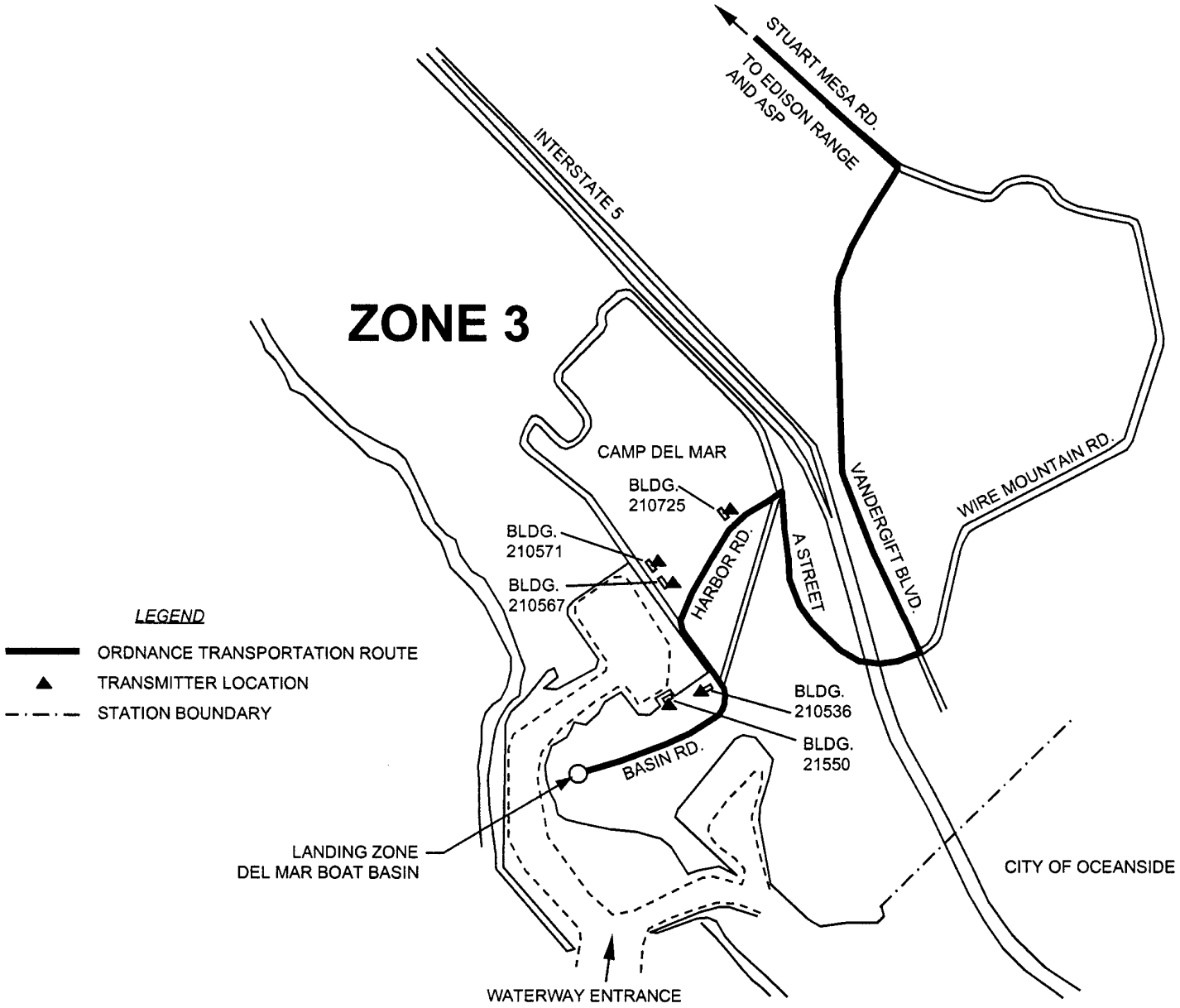


FIGURE C-4. MCB CAMP PENDLETON, LANDING ZONE DEL MAR BOAT BASIN

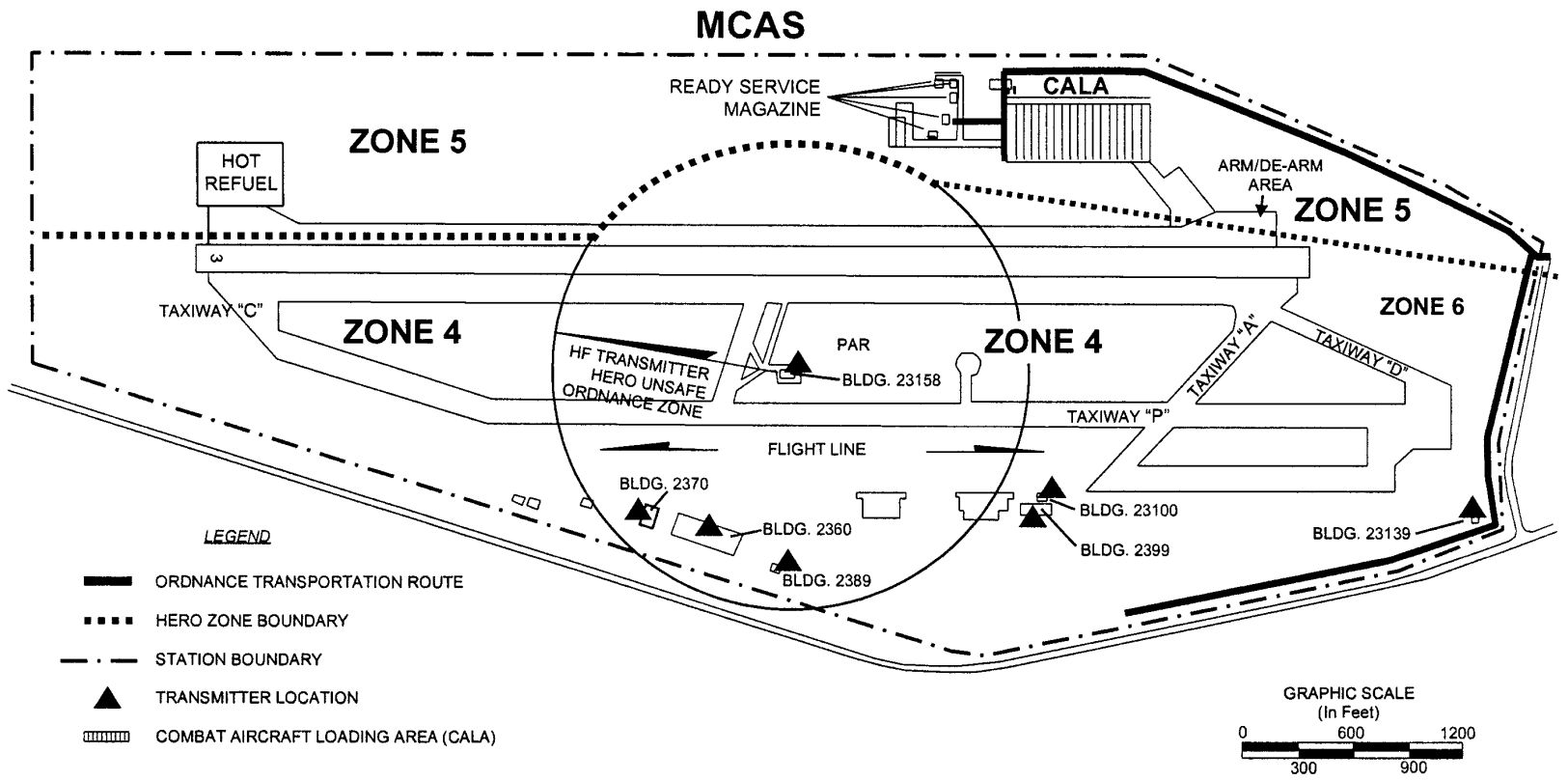


FIGURE C-5. MCAS CAMP PENDLETON, CALIFORNIA

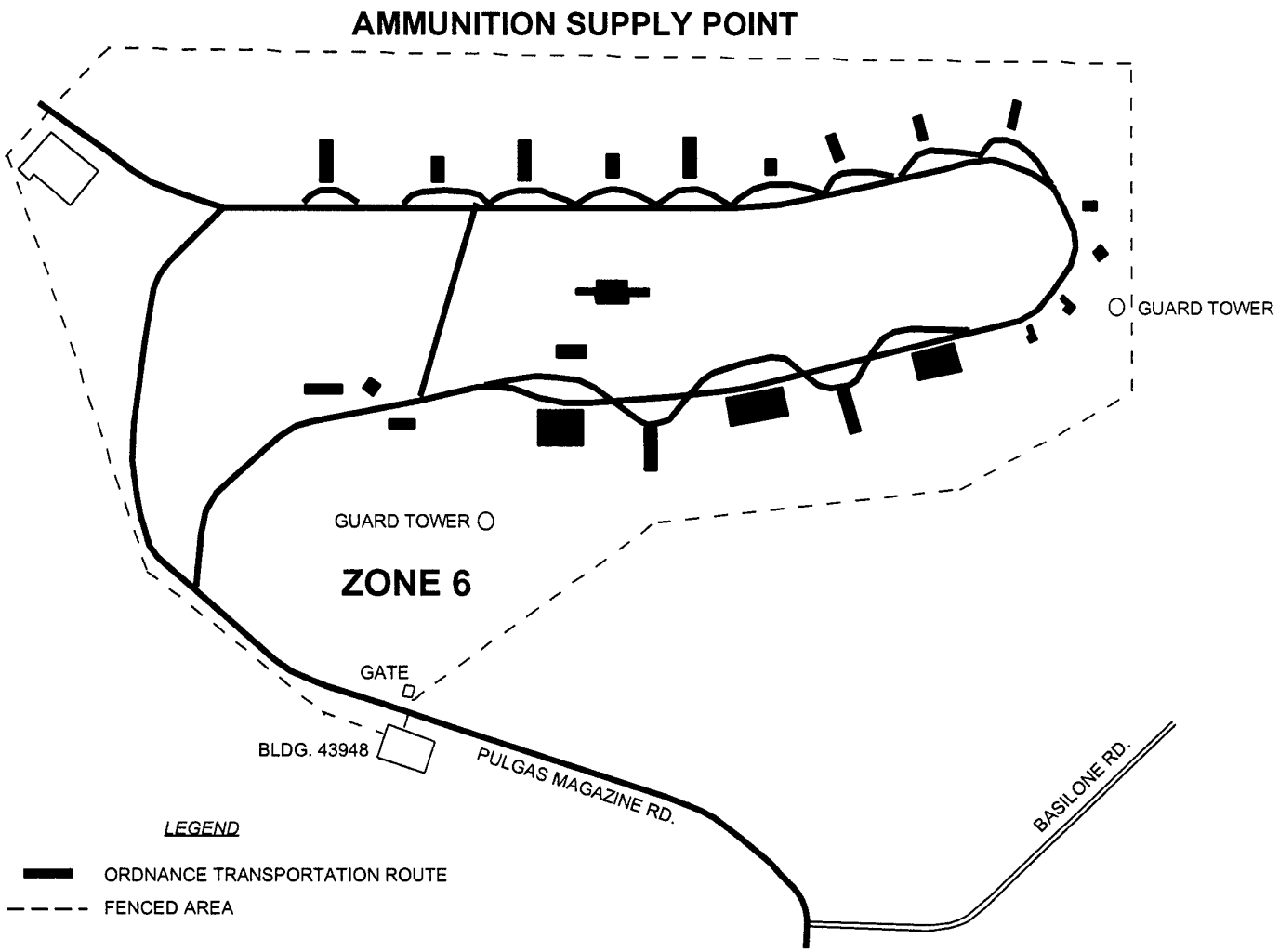


FIGURE C-6. MCB CAMP PENDLETON AMMUNITION SUPPLY POINT

APPENDIX D

EME DATA SUMMARY

TABLE D-1. EME DATA SUMMARY FOR COMMUNICATION SYSTEMS

TP	Test Point Description	System	Frequency (MHz)	Field Intensity (max) (V/m)
1	ORDNANCE TRANSPORTATION ROUTE	AN/PRC-119 TRANSMITTER CONNECTED TO AN OE-254 ANTENNA (BUILDING 210536)	30	0.003
		AN/PRC-119 TRANSMITTER CONNECTED TO AN OE-254 ANTENNA (BUILDING 210536)	31.5	0.003

APPENDIX E

HERO WARNING LABEL AND WARNING SIGN

APPENDIX E
HERO WARNING LABEL AND WARNING SIGN

The HERO warning label shown in Figure E-1 is to be affixed to mobile and portable communications radios. This warning label alerts a radio operator to a potential hazard if the radio is operated within the prescribed distance of ordnance operations.

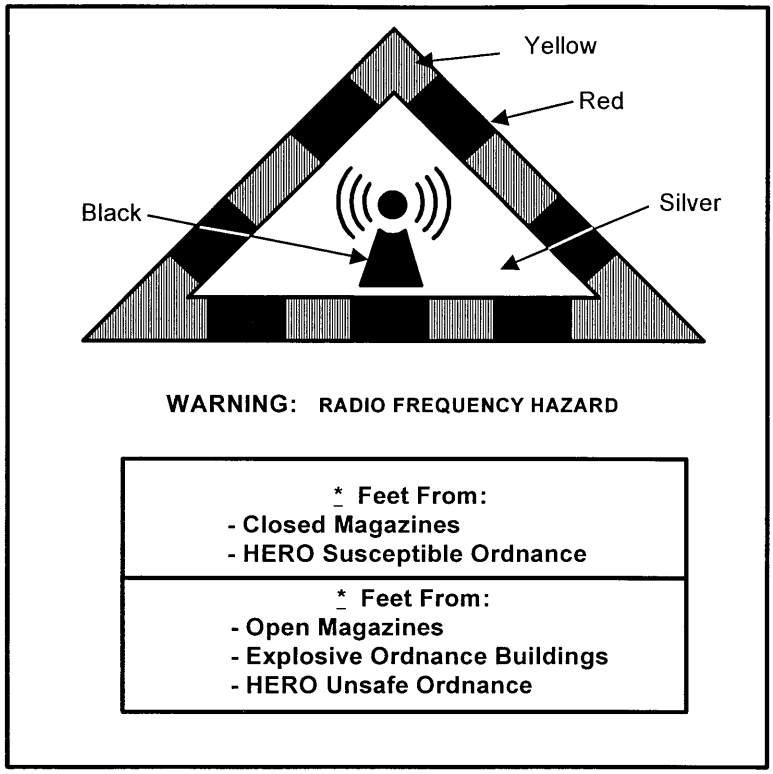


FIGURE E-1. HERO WARNING LABEL

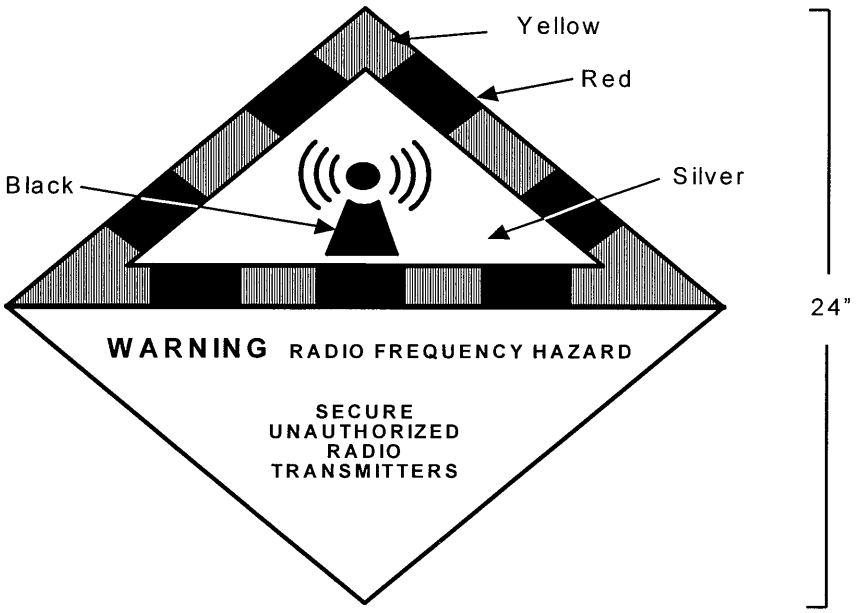
Table E-1 provides data pertaining to the above label. The label has blank spaces for inserting HERO SUSCEPTIBLE or HERO UNSAFE separation distances in feet. The distances are obtained from Appendix A of this report for individual radios. Additional radio listings and their corresponding HERO separation distances are found in Chapter 2 of OP 3565, Volume 2. The smaller label is recommended for hand-held portable radios and the larger for mobiles.

TABLE E-1. HERO WARNING LABEL INFORMATION*

NAVSEA FORM	STOCK NUMBER	SIZE	DESCRIPTION
NAVSEA 5104/4	0116-LF-115-0700	2" x $2^{2}/_{3}$	RADHAZ Warning Label (Blank) Feet
NAVSEA 5140/3	0116-LF-115-0800	$1^{1}/_{2}$ x $2^{1}/_{3}$	RADHAZ Warning Label (Blank) Feet

*Available from Defense Automated Printing Service (DAPS) Philadelphia: (215) 697-2981/ 2982 or on the World Wide Web at http://forms.daps.mil.

The recommended HERO warning sign is shown in Figure E-2. It is placed along ordnance transportation routes at prescribed locations to ordnance operations (e.g., missile assembly, ammunition pier, etc.) to alert radio operators to a potential hazard when using radios past this point. Guidance for manufacturing signs is provided below.



MATERIALS:	Anodized aluminum, adhesive backing optional
COLORS:	Base material of anodized silver background; black anodized messages in bottom triangle: alternating colored blocks of anodized red and yellow in a border surrounding black anodized logogram in top triangle
LOGOGRAM:	Design will be a pictorial presentation of a radar antenna consisting of a pylon with a dot simulating an antenna and concentric area simulating pulsed energy
WORDING:	The title, WARNING: RADIO FREQUENCY HAZARD, is standard for all signs; the messages in the lower triangle will vary according to particular situation; use of descriptive wording or warning information is the user's option

FIGURE E-2. HERO WARNING SIGN

APPENDIX F

SAMPLE HERO INSTRUCTION

MCAS/MCB CAMP PENDLETON HERO INSTRUCTION

Subj: HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE (HERO)

Ref: (a) Hazards of Electromagnetic Radiation to Ordnance Assessment of Marine Corps Air Station/Marine Corps Base Camp Pendleton, California Apr 2002
(b) Electromagnetic Radiation Hazards (Hazards to Ordnance), NAVSEA OP 3565/ NAVAIR 16-1-529/NAVELEX 0967-LP-624-6010, Volume 2, Tenth Revision, 15 Jan 2001
(c) NAVFAC 11010/31 Parts I and II, Subj: Request for Project Site Approval/Explosive Safety Certification

Encl: (1) General HERO Requirements
(2) Ordnance Operation Areas and Ordnance Transportation Routes
(3) Applications for Setting HERO Conditions
(4) HERO EMCON Procedures
(5) Safe Separation Distances for Antenna/Transmitter Systems
(6) HERO Warning Label and Warning Sign
(7) Station Call List for HERO EMCON

1. Purpose. To promulgate policy and procedures for safe handling, transportation, and stowage of ordnance with regard to HERO at Marine Corps Air Station (MCAS)/Marine Corps Base (MCB) Camp Pendleton, California. Reference (a) is the station's current HERO Assessment Report. The information contained in enclosures (2) through (6) is provided in reference (a).

2. Cancellation. This is a complete initial instruction and cancels all previous instructions.

3. Scope. This instruction is applicable anytime HERO SUSCEPTIBLE or HERO UNSAFE ORDNANCE is handled, loaded, or transported at all station ordnance locations.

4. General Discussion. As described in reference (b), electromagnetic radiation (EMR) hazards stem from the functional characteristics of electrically initiated ordnance, and are a result of absorption of electromagnetic energy by the firing circuitry of electrically initiated devices (EIDs). The induced energy can cause heating of the bridgewire and primary explosive, and can result in premature, unintended actuation of the EID. Such an event can pose either a safety or reliability problem. In general, ordnance is most susceptible to radio-frequency (RF) electromagnetic environments (EMEs) during assembly, disassembly, handling, loading, and unloading. There are three classifications pertinent to HERO: HERO SAFE ORDNANCE, HERO SUSCEPTIBLE ORDNANCE, and HERO UNSAFE ORDNANCE. Therefore, HERO emission control (EMCON) and ordnance handling restrictions and procedures [see reference (a)] form a compromise which allows for the safe handling of ordnance within the existing EME. EMCON is derived from an analysis of the EMEs produced by the existing antenna/transmitter systems and the ordnance susceptibilities described in reference (b), or through a HERO survey. The following paragraphs describe the categories of ordnance.

a. HERO SAFE ORDNANCE: Items that require no EME restrictions beyond the general HERO requirements described in paragraph 5-4 of reference (b).

b. HERO SUSCEPTIBLE ORDNANCE: Items that are susceptible and require moderate EME restrictions.

c. HERO UNSAFE ORDNANCE: Items that are extremely susceptible and require severe EME restrictions.

5. HERO Instruction. Provides specific guidance germane to the antenna/transmitter systems at MCAS/MCB Camp Pendleton in order to mitigate the concern for HERO. Reference (a) contains the HERO EMCON procedures tailored specifically for this station. The standard HERO precautions are listed in enclosure (1). Enclosure (2) contains station drawings. These drawings show ordnance storage and operational areas, transportation routes, current transmitter and antenna locations, and HERO zones. Enclosure (3) contains the applications for setting HERO Conditions. Enclosure (4) contains the HERO EMCON procedures. Enclosure (5) provides HERO separation distances for antenna/transmitter systems. Enclosure (6) illustrates a recommended HERO warning label and sign. Through the use of enclosure (7), the Command Duty Officer (CDO), upon notification, will set the appropriate HERO EMCON Condition to ensure that EMEs do not exceed acceptable levels.

6. Responsibilities

a. Commanding Officers (COs)/Officers-in-Charge and Department Heads/Special Staff Assistants:

(1) Ensure that all operators of antenna/transmitter systems comply with this instruction.

(2) Ensure that personnel operating antenna/transmitter systems are properly instructed in their use during HERO EMCON conditions.

(3) Notify the Explosive Safety Officer (ESO), the Frequency Manager, and the HERO Officer prior to installing and using new radiating electronic equipment.

(4) Promulgate supplementary instructions pertaining to their own equipment, personnel, and operating procedures as required for compliance with this instruction.

b. Weapons Officer: The Weapons Officer is the central point-of-contact (POC) for determination of compliance with the appropriate references as it relates to all forms of ordnance handled at this station. As such, he will provide the ESO, Frequency Manager, and HERO Officer with all ordnance facility (or handling location) changes.

(1) Ensure that all ordnance personnel are familiar with HERO restrictions applicable to ordnance operations.

(2) When issuing any ordnance (or ordnance component) to a user, advise the user of its HERO status during all aspects of its life cycle (i.e., transportation, storage, assembly, handling, and loading operations).

(3) Inform the HERO Officer upon receipt of ordnance items that are categorized as HERO SUSCEPTIBLE or HERO UNSAFE ORDNANCE so the HERO issues can be mitigated to ensure both safety and reliability.

(4) Ensure that HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE items are enclosed in sealed, all-metal containers during transport. (When transported in sealed, all-metal containers, such ordnance is considered HERO SAFE.) If HERO SUSCEPTIBLE ORDNANCE is transported outside a sealed, all-metal container, observe the HERO separation distances listed in enclosure (5) for stationary and portable and mobile antenna/transmitter systems. In the event of an ordnance accident, set the appropriate HERO Condition for HERO UNSAFE ORDNANCE.

(5) Place HERO warning signs prohibiting RF transmissions at the entrance to magazine area and all ordnance handling or storage activities. Enclosure (6) illustrates a recommended HERO warning sign.

c. HERO Officer:

(1) The Weapons Officer will assume the duties of HERO Officer.

(2) Be responsible for a continuing program to ensure HERO safety at the station.

(3) Convene an annual conference of ordnance and radiation hazard (RADHAZ) personnel who are representative of each unit or organization to discuss and recommend changes to these instructions.

(4) The HERO Officer will be responsible for notifying the appropriate personnel [listed in enclosure (7)] of the setting of a HERO Condition. After normal hours, duties convey to the Command Duty Officer (CDO).

(5) Monitor the supply of HERO warning labels and signs and order as necessary.

(6) Review RADHAZ requirements and request HERO surveys when required.

d. Explosive Safety Officer: The ESO is the central POC for determination of compliance with the appropriate references as it relates to all forms of ordnance safety at this station. As such, he/she will assist the Weapons Officer in tracking and monitoring all future ordnance facility (or handling location) changes. He/she will act as a HERO liaison with the HERO Officer and Frequency Manager to track and monitor all future antenna/transmitter system and ordnance changes. The liaison will coordinate the HERO program and account for all command and tenant information as presented in enclosures (2) and (5) concerning ordnance operations

and antenna/transmitter systems present. He/she will assist the HERO Officer and Frequency Manager in ensuring future antenna/transmitter system changes at the station are submitted for HERO review. This includes, but is not limited to, the following:

Approve/disapprove (on recommendations from the Frequency Manager) all new or modified antenna/transmitter system installations and frequency coordination at this station. Contact the Naval Ordnance Safety and Security Activity (N716), for all questions concerning HERO.

e. Frequency Manager:

(1) The Frequency Manager shall be responsible for the analysis of planned alternations to the existing antenna/transmitter system configurations and shall advise the CO on the HERO EMCON impact before executing the plan.

(2) Ensure that all mobile and portable radios under the cognizance of this command are affixed with HERO warning labels to identify safe separation distances prior to issue.

(3) Inform the Weapons Officer, ESO, HERO Officer, and the Safety Department when stationary transmitters/antenna systems are relocated or new equipment is obtained. These changes should be submitted for HERO review in accordance with reference (c).

(4) Establish check-in procedures for owners of citizens band and other mobile radios and cellular telephones to familiarize operators with HERO.

(5) Approve/disapprove any request to operate amateur radio equipment at the station.

f. Operations Officer:

(1) When requested, set and secure HERO EMCON Conditions as requested.

(2) Ensure all aircraft are notified of applicable HERO Conditions.

(3) Maintain liaison with tenant commands to resolve any conflicts in setting HERO EMCON Conditions.

(4) Designate a member of the Operations Department as the Command RADHAZ Control Officer.

g. Safety Department: Shall act as a review authority to ensure compliance with applicable ordnance safety directives and HERO procedures as outlined herein.

h. Security Department: Shall be responsible for notifying station personnel and visitors who have mobile transmitters in their personal vehicles that transmission onboard the station will be permitted only with the written permission of the CO.

i. Fire Department: In the event of an ordnance accident or incident, shall act as on-scene commander until such time as the situation has been resolved [i.e., explosive ordnance disposal (EOD) responds and the item is rendered safe, or the item is determined safe to transport].

j. Tenant commands and activities:

(1) Shall be responsible for notifying the ESO and HERO Officer of any operation involving HERO SUSCEPTIBLE ORDNANCE or HERO UNSAFE ORDNANCE that would require the setting of a HERO Condition.

(2) Shall be responsible for ensuring HERO UNSAFE ORDNANCE is completely enclosed in sealed, all-metal containers during storage and during transfer between designated safe areas.

7. Requirements: To ensure ordnance safety, precautions must be taken to limit EMEs in and around ordnance handling areas. Enclosure (1) contains standard HERO precautions and Chapter 5 of reference (b) provides HERO requirements during ordnance operations.

a. When ordnance is being assembled, handled, or transported within the confines of the station, emissions from various mobile and portable antenna/transmitter systems should be silenced or the HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE safe separation distances provided in enclosure (5) or Chapter 2 of reference (b) should be maintained.

b. HERO UNSAFE or HERO SUSCEPTIBLE ORDNANCE cannot be moved, transported, or loaded except as specified by the Weapons Officer, ESO, and the HERO Officer. Enclosures (3) and (4) provide specific HERO EMCON guidance.

c. Other conditions necessitating deviations from the requirements outlined in reference (b) shall be reported to the Naval Ordnance Safety and Security Activity (NOSSA), N716, in accordance with reference (b).

d. The CDO will be responsible for notifying the appropriate personnel [listed in enclosure (7)] of the setting of a HERO Condition after normal working hours. In addition, the CDO will receive reports that the ordered HERO Condition is set and report to the HERO Officer.

e. Officers and supervisors shall be responsible for notifying each operator of a government vehicle containing a mobile transmitter that the transmitter is not to be energized within the safe separation distances provided in enclosure (5) or Chapter 2 of reference (b).

f. Each civilian employee or military person having a radio transmitter installed in his/her personal vehicle is responsible for its registration with the Safety Department, in accordance with reference (b). (Note: Registration does not authorize use.) One copy of the registration form shall be kept in the vehicle with the radio at all times while at the station; the second copy will remain on file at the Pass and Identification Office. Privately owned radios shall not be operated

in any restricted area or in other parts of the station while in sight of a vehicle (train or truck) that exhibits an explosive placard.

g. Each mobile and portable transmitter shall be conspicuously marked (at the operator's location) with the appropriate distance taken from enclosure (1) and marked by a (RADHAZ) cautionary decal. Cautionary decals will be provided by the HERO Officer/Frequency Manager.

h. Commands, contractors, and their representatives will coordinate frequency assignment matters through the appropriate Department of the Navy Area Frequency Coordinator and station Frequency Manager.

8. Procedures

a. The following general procedures apply when setting HERO EMCON:

(1) In the event of an ordnance accident involving an ordnance carrier along the ordnance transportation route, the appropriate HERO UNSAFE ORDNANCE Condition [defined in enclosures (3) and (4)] will be set by the ESO, HERO Officer, or CDO and will remain in effect until EOD personnel have completed a Render Safe Procedure (RSP) or determined that EMCON is no longer required (i.e., the ordnance is safe to transport).

(2) The ESO, HERO Officer, or CDO will notify all ordnance accident response units to maintain a minimum separation distance of 150 feet from the accident site when 3 VHF mobile radios are in use, and 50 feet when 3 portable radios are in use.

(3) For HERO SUSCEPTIBLE ORDNANCE, the HERO Officer or CDO will be notified 24 hours prior to routine implementation of a HERO Condition by the station's ordnance personnel. The commencement time and automatic expiration time will require a minimum of 30 minutes notice by the using activity.

(4) In all instances, the HERO Officer will contact all activities impacted by HERO (e.g., stationary antenna/transmitter systems to be silenced) and inform all ships and small craft in port (or new arrivals) to discontinue the use of all antenna/transmitter systems unless specifically exempt in enclosure (4).

b. The following procedures apply when handling ordnance:

c. EMERGENCY CONDITION:

(1) An EMERGENCY CONDITION exists when ordnance that contains EIDs with unknown HERO characteristics, or ordnance known to be HERO UNSAFE, HERO SUSCEPTIBLE, or HERO SAFE ORDNANCE, has been involved in a mishap that causes the condition of the ordnance to be in question.

(2) In the event of an EMERGENCY CONDITION, suspect ordnance will be classified as HERO UNSAFE ORDNANCE and the appropriate HERO Condition for the affected zone will be set in accordance with enclosures (3) and (4).

(3) The HERO Officer or CDO will notify the appropriate personnel of the prescribed HERO CONDITION.

(4) The ESO in conjunction with EOD personnel will determine when the suspect ordnance is HERO SAFE and control the power-up of antenna/transmitter systems.

GENERAL HERO REQUIREMENTS

Enclosure (1)

SAMPLE ONLY

GENERAL HERO REQUIREMENTS

1. The following requirements apply to all ordnance operations involving the presence, handling, and loading/unloading of ordnance unless otherwise specified in NAVSEA OP 3565/ NAVAIR 16-1-529/NAVELEX 0967-LP-624-6010.

a. Ordnance evolutions must be planned so that there is a minimum of ordnance exposure to the EMEs.

b. Avoid touching any exposed firing contact, wiring, or other exposed circuitry with any part of the body or with any metallic object.

c. Ensure all open electrical connectors on the ordnance are covered with non-shorting caps.

d. Ordnance will not be assembled/disassembled in an EME.

e. Ignitors, primers, detonators, and other items containing EIDs will not be stowed in magazines that have flexible waveguides routed through them.

2. Transport and store HERO UNSAFE ORDNANCE in sealed, all-metal containers.

3. When transporting HERO SUSCEPTIBLE ORDNANCE, comply with the ordnance handling requirements listed in Chapter 5 of reference (b) and reference (a).

4. Observe the HERO separation distances listed in enclosure (5) for transmitters on aircraft.

5. Silence all boat transmitters except satellite communications transmitters or transmitters operating into dummy loads.

6. Observe the HERO separation distances listed in enclosure (5) or Chapter 2 of reference (b) for cellular telephones and mobile and portable radios, and affix HERO warning labels stating separation distances for HERO UNSAFE and HERO SUSCEPTIBLE ORDNANCE to units.

7. For transmitters and ordnance not specifically addressed in this instruction, see reference (b) for HERO guidance.

8. Prior to conducting geophysical surveys for unexploded ordnance using equipment with electromagnetic transmitting detection/location (ground-penetrating radar, ground conductivity meters, etc.) systems, contact NOSSA, N716, for HERO safety guidance.

9. Ensure that ordnance accident response units (Fire, Ordnance, Explosive Ordnance Disposal, and Security personnel) maintain a minimum separation distance of 150 feet from the accident site when 3 or more VHF mobile radios are in use, and 50 feet when 3 or more portable radios are in use. For single radio use, see the applicable separation distances listed in enclosure (5).

SAMPLE ONLY

ORDNANCE OPERATION AREAS AND ORDNANCE TRANSPORTATION ROUTES

Enclosure (2)

SAMPLE ONLY

ORDNANCE HANDLING AREAS AND ORDNANCE TRANSPORTATION ROUTES

Insert Appendix C of reference (a) here.

APPLICATIONS FOR SETTING HERO CONDITIONS

Enclosure (3)

APPLICATIONS FOR SETTING HERO CONDITIONS

Insert Table 1 of reference (a) here.

HERO EMCON PROCEDURES

Enclosure (4)

Insert Table 2 of reference (a) here.

SAFE SEPARATION DISTANCES FOR
ANTENNA/TRANSMITTER SYSTEMS

Enclosure (5)

SAMPLE ONLY

SAFE SEPARATION DISTANCES FOR ANTENNA/TRANSMITTER SYSTEMS

Insert Appendix A of reference (a) here. For all other communication and radar systems not specifically addressed in reference (a), see reference (b).

SAMPLE ONLY

HERO WARNING LABEL AND WARNING SIGN

Enclosure (6)

SAMPLE ONLY

HERO WARNING LABEL AND WARNING SIGN

Insert the HERO warning label and warning sign from reference (a) here.

SAMPLE ONLY

STATION CALL LIST FOR HERO EMCON

Enclosure (7)

SAMPLE ONLY

SAMPLE ONLY

STATION CALL LIST FOR HERO EMCON

The Explosive Safety Officer/HERO Officer should generate and maintain a list of names and phone numbers for those activities impacted by HERO EMCON and provide to the Command Duty Officer/Officer of the Day.

SAMPLE ONLY


ELECTROMAGNETIC
SYSTEMS
EFFECTS
NSWCDD
EMV - PROTECTION - HERO